	STATE OF UTAH  DEPARTMENT OF NATURAL RESOURCE:  DIVISION OF OIL, GAS AND MINING									AMENI	FC DED REPOR	RM 3	
		AF	PPLICATION FO	OR PERM	IT TO DRILL				1. WELL NAME and N		921-36L1	cs	
2. TYPE O	F WORK	DRILL NEW WELL	REENTER	P&A WELL	DEEPEN	WELL (	)		3. FIELD OR WILDCA	T NATURAL	.BUTTES		
4. TYPE O	F WELL								5. UNIT or COMMUNI			ENT NAM	/IE
6. NAME OF OPERATOR									7. OPERATOR PHONE		0.0545		
KERR-MCGEE OIL & GAS ONSHORE, L.P.  8. ADDRESS OF OPERATOR								9. OPERATOR E-MAI					
10. MINER	AL LEASE NUN	IBER	P.O. Box 173779		CO, 80217 NERAL OWNERS	SHIP			julie.j  12. SURFACE OWNER		anadarko	.com	
(FEDERAI	., INDIAN, OR S	TATE) ML 22265		FED	ERAL NO	DIAN 🔵	STATE 值	) FEE	FEDERAL IN	DIAN 🔵	STATE	© F	EE 💮
13. NAME OF SURFACE OWNER (if box 12 = 'fee')									14. SURFACE OWNE	R PHONE	(if box 12	= 'fee')	
15. ADDR	ESS OF SURFA	CE OWNER (if box	12 = 'fee')						16. SURFACE OWNE	R E-MAIL	(if box 12	: = 'fee')	
		R TRIBE NAME			TEND TO COMM		RODUCTION	FROM	19. SLANT				
(If box 12	= 'INDIAN')			YES	(Submit C	Commingli	ing Applicatio	n) NO	VERTICAL DI	RECTION	AL 🖲 H	HORIZON	ΓAL 🔵
20. LOC	TION OF WELL	-		FOOTAGE	ES .	QTR	R-QTR	SECTION	TOWNSHIP	R/	ANGE	МЕ	ERIDIAN
LOCATIO	N AT SURFACI	Ξ	1252	2 FSL 113	1 FWL	SW	vsw	36	9.0 S	2	1.0 E		S
Top of U	ppermost Prod	ducing Zone	199	7 FSL 823	3 FWL	NV	vsw	36	9.0 S	21.0 E		S	
At Total					NV	wsw	36			21.0 E S		S	
21. COUNTY  UINTAH  22. DISTANCE TO NEAREST LEASE LINE (Feet) 823						et)	23. NUMBER OF ACR	ES IN DRI 63		IT			
25. DISTANCE TO NEAREST (Applied For Drilling or Cor						leted)	POOL	26. PROPOSED DEPT		TVD: 106	608		
27. ELEVATION - GROUND LEVEL 28. BOND NUMBER 5084 220					22013	3542		29. SOURCE OF DRIL WATER RIGHTS APPR		MBER IF A	PPLICAB	LE	
					Hole, Casing			mation					
String	Hole Size	Casing Size	Length	Weight	Grade & T	hread	Max Mu	d Wt.	Cement Sacks Yield Weig				
Surf	12.25	8.625	0 - 2650	28.0	J-55 LT	Γ&C	0.2	2	Type V Class G		180 270	1.15	15.8 15.8
Prod	7.875	4.5	0 - 10729	11.6	HCP-110	LT&C	13.0	0 Pr	emium Lite High Stre	ength	330	3.38	12.0
									50/50 Poz		1550	1.31	14.3
					A	TTACHN	MENTS						
	VEF	RIFY THE FOLLO	WING ARE AT	ACHED I	IN ACCORDAN	ICE WITH	H THE UTA	H OIL AND GA	S CONSERVATION O	SENERA	L RULES		
<b>w</b> w	ELL PLAT OR M	IAP PREPARED BY	LICENSED SURVE	YOR OR E	NGINEER		<b>✓</b> COMP	LETE DRILLING	PLAN				
AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)						FORM	5. IF OPERATOR	IS OTHER THAN THE L	EASE OW	NER			
DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)				))	торос	GRAPHICAL MAR	,						
NAME Da	anielle Piernot			TITLE R	egulatory Analys	t		PHONE 72	0 929-6156				
SIGNATU	RE			DATE 12	2/20/2011			EMAIL dar	ielle.piernot@anadarko.	com			
	BER ASSIGNED 047522590			APPROV	/AL		Ballyill						
					Per	mit Manager							

Morgan State 921-36M Pad Drilling Program

#### Kerr-McGee Oil & Gas Onshore. L.P.

#### **MORGAN STATE 921-36L1CS**

Surface: 1252 FSL / 1131 FWL SWSW BHL: 1997 FSL / 823 FWL NWSW

Section 36 T9S R21E

Unitah County, Utah Mineral Lease: ML-22265

#### **ONSHORE ORDER NO. 1**

#### **DRILLING PROGRAM**

#### 1. & 2.a <u>Estimated Tops of Important Geologic Markers</u>: <u>Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations</u>:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,419'	
Birds Nest	1,696'	Water
Mahogany	2,195'	Water
Wasatch	4,660'	Gas
Mesaverde	7,355'	Gas
Sego	9,526'	Gas
Castlegate	9,587'	Gas
MN5	10,008'	Gas
TVD =	10,608'	
TD =	10,729'	

2.c Kerr McGee Oil & Gas Onshore LP (Kerr McGee) will either drill to the the Blackhawk formation, which is part of the Mesaverde formation, or the Wasatch/Mesaverde formation. If Kerr McGee drills to the Blackhawk formation (part of the Mesaverde formation), please refer to MN5 as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr McGee drills to the Wasatch/Mesaverde formation please refer to Sego as the bottom formation. The attached Wasatch/Mesaverde Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the depths the Wasatch/Mesaverde formations are found.

#### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

1 of 9

API Well Number: 43047522590000

Morgan State 921-36M Pad

Drilling Program
2 of 9

#### 4. Proposed Casing & Cementing Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

#### 5. <u>Drilling Fluids Program</u>:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

#### 6. <u>Evaluation Program</u>:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

#### 7. <u>Abnormal Conditions</u>:

#### 7.a Blackhawk (Part of Mesaverde Formation) Target Formation

Maximum anticipated bottom hole pressure calculated at 10608' TVD, approximately equals 7,001 psi (0.66 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,716 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

#### 7.b Wasach/Mesaverde Target Formation

Maximum anticipated bottom hole pressure calculated at 9526' TVD, approximately equals 6,097 psi (0.64 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,988 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

#### 8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

#### 9. <u>Variances:</u>

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- · Blowout Prevention Equipment (BOPE) requirements;
- · Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

Morgan State 921-36M Pad Drilling Program

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

#### **Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

#### Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

#### Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Morgan State 921-36M Pad Drilling Program 4 of 9

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

#### Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

#### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

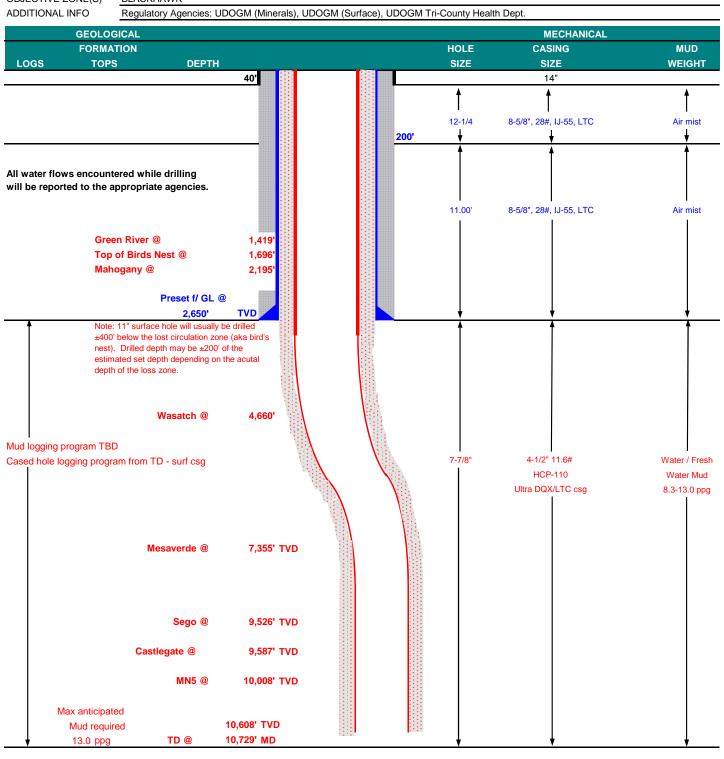
#### 10. Other Information:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program



# KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

COMPANY NAME KERR-McGEE OIL & GAS ONSHORE LP December 19, 2011 **MORGAN STATE 921-36L1CS** TD 10,608' 10,729' MD WELL NAME TVD STATE Utah **FIELD** Natural Buttes FINISHED ELEVATION 5,076' **COUNTY** Uintah SURFACE LOCATION swsw 1131 FWL T 9S 1252 FSL Sec 36 R 21E Latitude: 39.988849 Longitude: -109.504747 NAD 27 BTM HOLE LOCATION NWSW 1997 FSL 823 FWL Sec 36 R 21E Latitude: 39.990879 Longitude: -109.505848 NAD 27 BLACKHAWK **OBJECTIVE ZONE(S)** 





#### KERR-McGEE OIL & GAS ONSHORE LP **BLACKHAWK DRILLING PROGRAM**

CASING PROGRAM									DESIGN FACTORS			
_										LTC	DQX	
	SIZE	INT	INTERVAL V		WT.	GR.	CPLG.	BURST	COLLAPSE TENSION		ENSION	
CONDUCTOR	14"	C	0-40'									
								3,390	1,880	348,000	N/A	
SURFACE	8-5/8"	0	to	2,650	28.00	IJ-55	LTC	2.03	1.52	5.36	N/A	
								10,690	8,650	279,000	367,174	
PRODUCTION	4-1/2"	0	to	5,000	11.60	HCP-110	DQX	1.19	1.21		3.68	
	4-1/2"	5,000	to	10,729'	11.60	HCP-110	LTC	1.19	1.21	5.24		

**Surface Casing:** 

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

9000 0.66 psi/ft = bottomhole gradient (Burst Assumptions: Pressure test with 8.4ppg @

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

#### **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1		+ 0.25 pps flocele				
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
		+ 2% CaCl + 0.25 pps flocele				
SURFACE		ion 2 will be	utilized			
Option 2 LEAD	2,150'	65/35 Poz + 6% Gel + 10 pps gilsonite 200 35%		35%	11.00	3.82
		+ 0.25 pps Flocele + 3% salt BWOW				
TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
		+ 0.25 pps flocele				
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION LEAD	4,159'	Premium Lite II +0.25 pps	330	35%	12.00	3.38
		celloflake + 5 pps gilsonite + 10% gel				
		+ 0.5% extender				
TAIL	6,570'	50/50 Poz/G + 10% salt + 2% gel	1,550	35%	14.30	1.31
		+ 0.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well.

#### **ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys wil	ll be taken	at 1,000'	minimum	intervals.

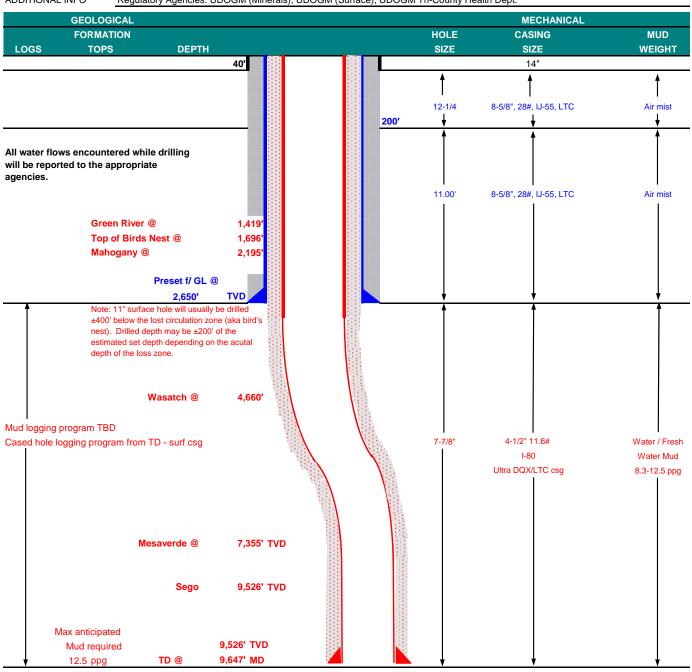
	Most rigs have PVT System for mud	monitoring. If no PVT is available, visual monitoring will be utilize	1.	
DRILLING	ENGINEER:		DATE:	
		Nick Spence / Danny Showers / Chad Loesel		
DRILLING	SUPERINTENDENT:		DATE:	
		Kenny Gathings / Lovel Young		

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained



# KERR-McGEE OIL & GAS ONSHORE LP WASATCH/MESAVERDE DRILLING PROGRAM

COMPANY NAME KER	R-McGEE OIL	& GAS ONSHOR	E LP	DATE	Dece	mber 19, 2011		
WELL NAME MO	RGAN STA	ΓΕ 921-36L1C	CS	TD	9,526	' TVD	9,647' MD	
FIELD Natural Butte	Natural Buttes COUNTY Uintah STATE Utah			FINISHED ELEVATION	5,076'			
SURFACE LOCATION	SWSW	1252 FSL	1131 FWL	Sec 36 T 95	R 21E			
	Latitude:	39.988849	Longitude:	-109.504747		NAD 27		
BTM HOLE LOCATION	NWSW	1997 FSL	823 FWL	Sec 36 T 95	R 21E			
	Latitude:	39.990879	Longitude:	-109.505848		NAD 27		
OBJECTIVE ZONE(S)	Wasatch/Mes	averde						
ADDITIONAL INFO	Regulatory Ag	gencies: UDOGM	(Minerals), UDO	GM (Surface), UD	OGM Tri-C	ounty Health Dept.		
GEOLOG	SICAL					MEC	HANICAL	
FORMA	TION					0.5		MILES





#### **KERR-McGEE OIL & GAS ONSHORE LP**

WASATCH/MESAVERDE DRILLING PROGRAM

CASING PROGRAM	·						DESIGN FACTORS				
										LTC	DQX
	SIZE	INT	INTERVAL W		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION	
CONDUCTOR	14"	(	0-40'								
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,650	28.00	IJ-55	LTC	2.03	1.52	5.36	N/A
								7,780	6,350		267,035
PRODUCTION	4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	1.03		2.95
								7,780	6,350	223,000	
	4-1/2"	5,000	to	9,647'	11.60	I-80	LTC	1.11	1.03	5.11	

**Surface Casing:** 

(Burst Assumptions: TD = 12.5 0.73 psi/ft = frac gradient @ surface shoe ppg)

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 0.64 psi/ft = bottomhole gradient psi)

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

#### **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEA	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1		+ 0.25 pps flocele				
TOP OUT CMT (6 job	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
		+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to	surface, opt	ion 2 will be	utilized	
Option 2	2,150'	65/35 Poz + 6% Gel + 10 pps gilsonite	200	35%	11.00	3.82
		+ 0.25 pps Flocele + 3% salt BWOW				
TA	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
		+ 0.25 pps flocele				
TOP OUT CM	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION LEA	d 4,157'	Premium Lite II +0.25 pps	330	35%	12.00	3.38
		celloflake + 5 pps gilsonite + 10% gel				
		+ 0.5% extender				
TA	5,490'	50/50 Poz/G + 10% salt + 2% gel	1,300	35%	14.30	1.31
		+ 0.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well.

#### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

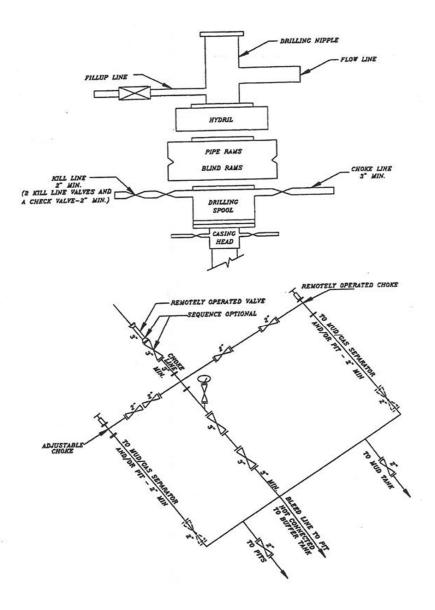
BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum interval	s.
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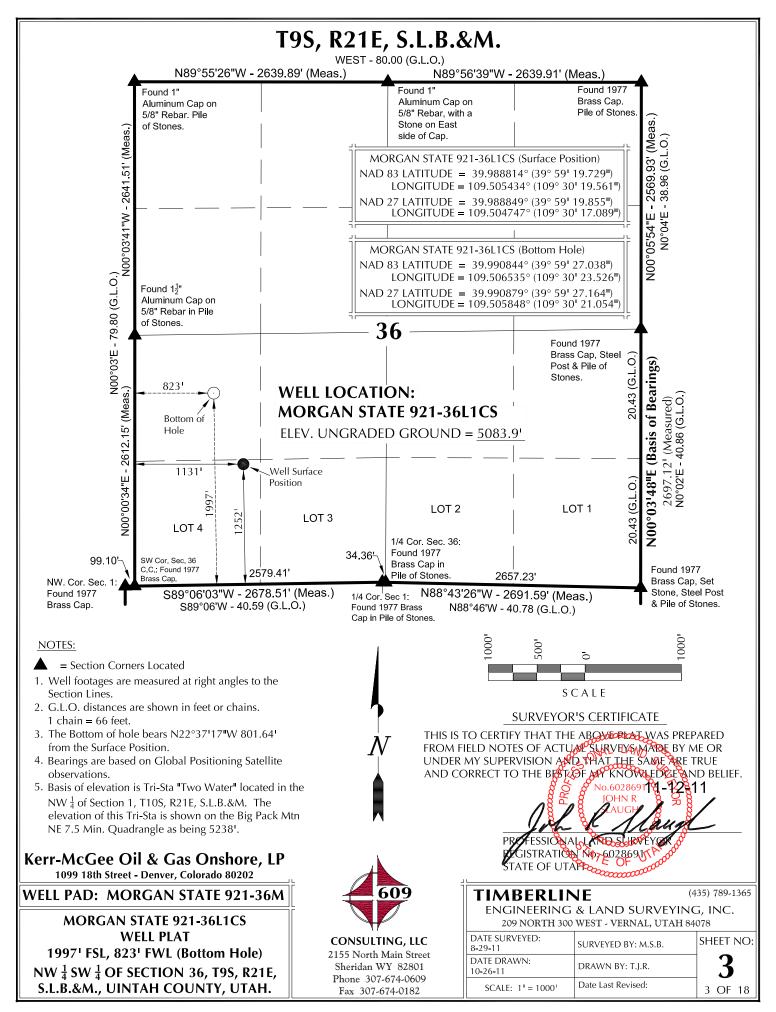
Most rigs have PVT System	for mud monitoring. If no PVT is available, visual monitoring will be utilized.		
DRILLING ENGINEER:		DATE:	
	Nick Spence / Danny Showers / Chad Loesel	-	
DRILLING SUPERINTENDENT:		DATE:	
	Kenny Gathings / Lovel Young		

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

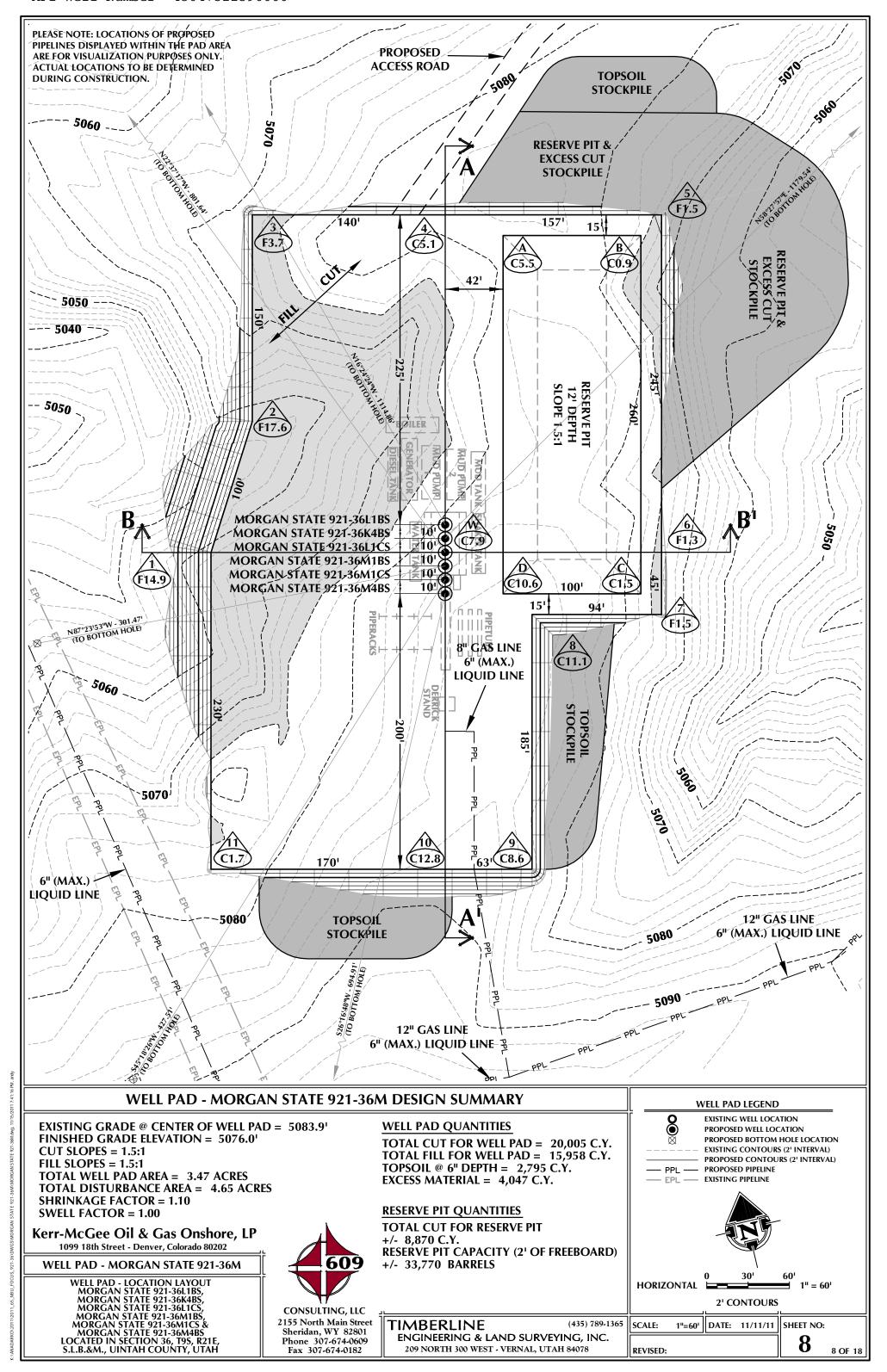
EXHIBIT A
MORGAN STATE 921-36L1CS

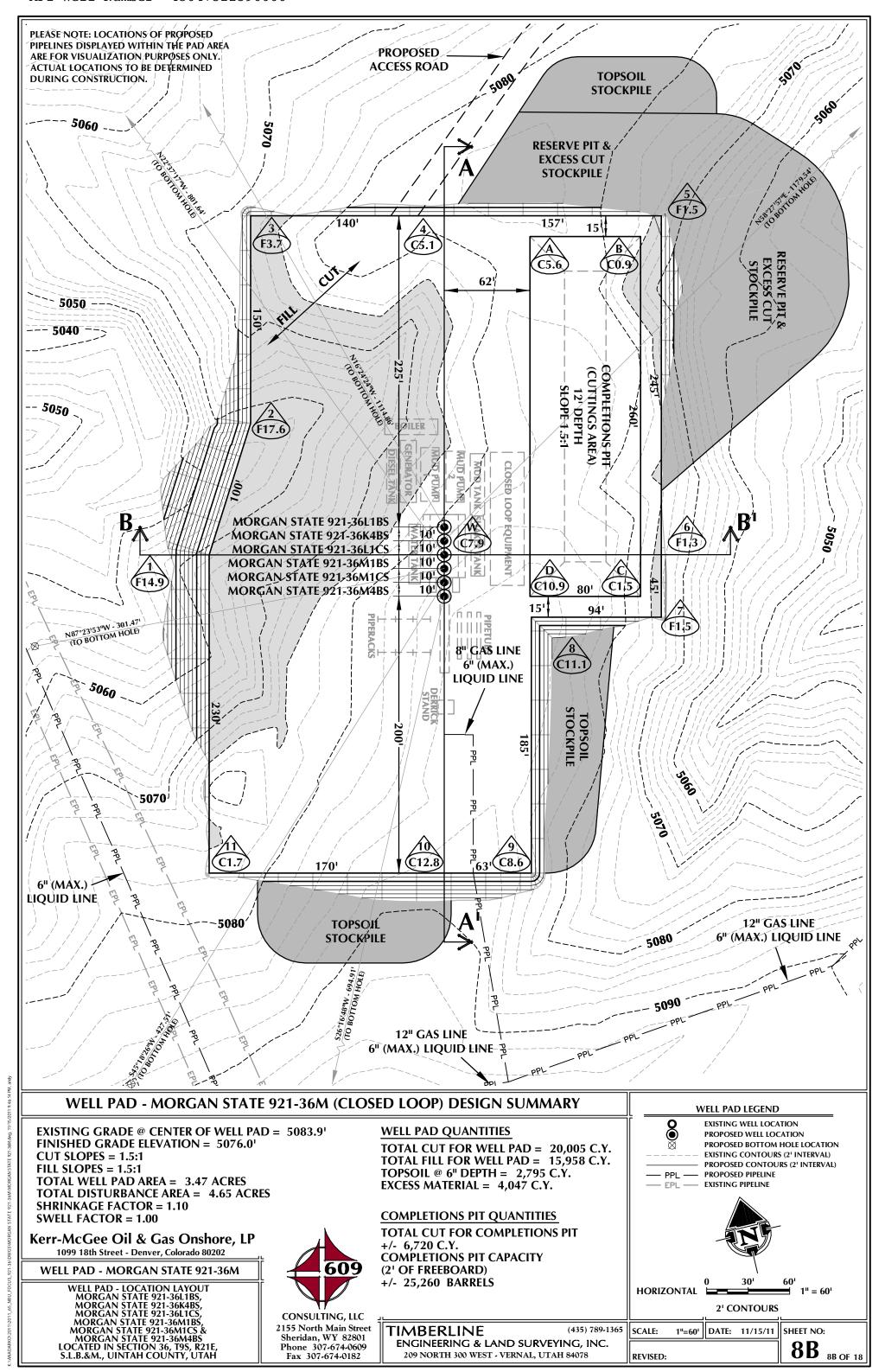


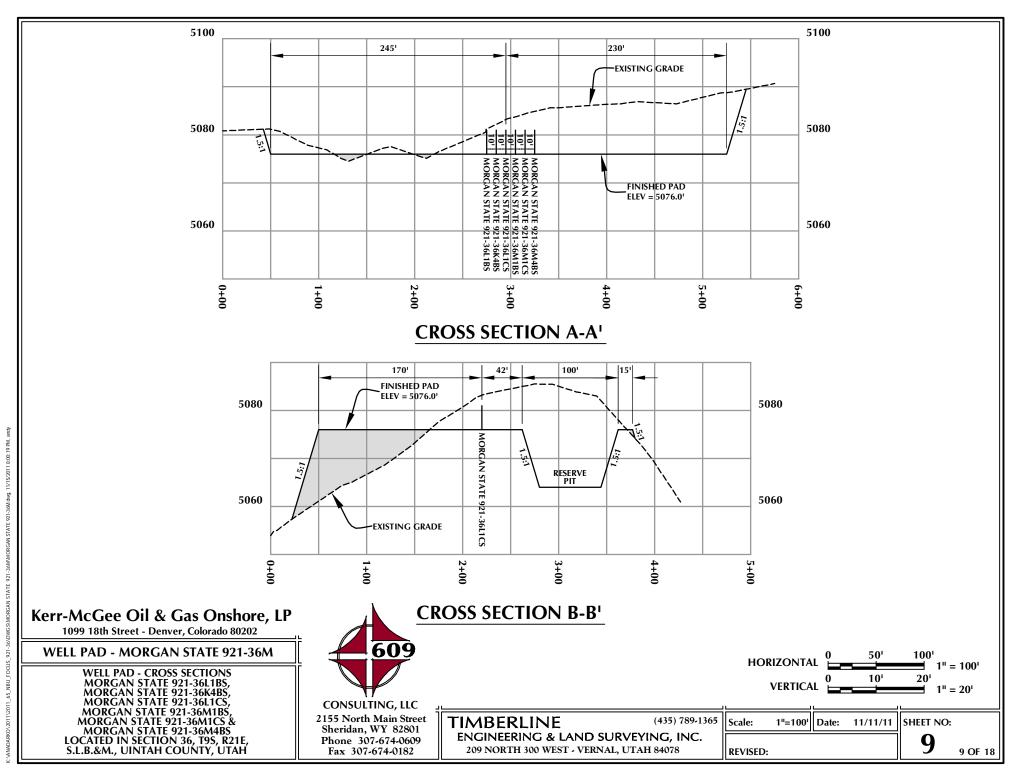
SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



			SURFACE POS	ITION				ĺ	BOTTOM HOLE		
WELL NAME	NAI			NAD27				AD83	NAI		
MORGAN STATE	<b>LATITUDE</b> 39°59'19.922"	109°30'19				272' FSL	39°59'30.48	<b>LONGITUDE</b> 7" 109°30'23.553'	39°59'30.613"	109°30'21.081"	
921-36L1BS	39.988867°	109°30′19	7° 39.988902	?° 109.50	1731° 1	272 FSL  36' FWL	39.991802°	109.506542°	39.991837°	109°30'21.081" 109.505856°	821' FWL
MORGAN STATE 921-36K4BS	39°59'19.825" 39.988840°	109°30'19 109.50542				262' FSL  34' FWL	39°59'25.92 39.990535°	4" 109°30'06.622' 109.501839°	39°59'26.050" 39.990570°	109°30'04.151" 109.501153°	1863¹ FSL
MORGAN STATE	39°59'19.729"	109.50542 109°30'19				252' FSL	39.990535° 39°59'27.03			109.501153° 109°30'21.054"	2139' FWL 1997' FSL
921-36L1CS	39.988814°	109.50543	39.988849	9° 109.50 <sub>4</sub>	1747° 1	31' FWL	39.990844°	109.506535°	39.990879°	109.505848°	8231 FWL
MORGAN STATE 921-36M1BS	39°59'19.633" 39.988787°	109°30'19 109.50544				243' FSL  29' FWL	39°59'19.76' 39.988824°	7"  109°30'23.459'  109.506516°	39°59'19.893" 39.988859°	109°30'20.987"  109.505830°	1261' FSL 828' FWL
MORGAN STATE 921-36M1CS	39°59'19.536" 39.988760°	109°30'19 109.50545	.620" 39°59'19.0	562" 109°30	17.149" 1	233' FSL  27' FWL	39°59'16.56 39.987935°		39°59'16.690" 39.987970°	109°30'21.050" 109.505847°	
MORGAN STATE	39°59'19.440"	109.30343 109°30'19	-			223' FSL	39°59'13.28		1	109.303647 109°30'21.126"	
921-36M4BS	39.988733°	109.50545				25' FWL	39.987023°	109.506555°	39.987058°	109.505868°	817' FWL
WELL NAME	NORTH	EAST	RELAT WELL NAME	NORTH	EAST		Position to Bo	ORTH EAST	WELL NAM	IE NORTH	EAST
MORGAN STATE	1069.5'	-314.9'	MORGAN STATE	616.9'	1005.4	MORG	AN STATE 7	40.0' -308.3'	MORGAN STA		-301.2
921-36L1BS			921-36K4BS			921-36	L1CS	70.0	921-36M1BS	15.7	301.2
WELL NAME MORGAN STATE	NORTH	EAST	WELL NAME MORGAN STATE	NORTH	EAST			,	1	i	, ,
921-36M1CS	-300.71	-303.9'	921-36M4BS	-623.11	-307.71						/ / /
S.L.B.& GLOBA OBSER	Gee Oil & 88th Street - De	TAKEN F NG SATEL BEAR NO	Az=2 0°03'48"E. - N87°23 (To Bo	272.6019 53"W - 30 ottom Hol	4° 01.47' - 1.16' (90) - 1.16' 69' 40' 60' 60' 60' 60' 60' 60' 60' 60' 60' 6	Ď M	MORGAN MORGAN 1ORGAN	STATE 921-36N STATE 921-36N STATE 921-36N STATE 921-36N	<sup>3</sup> 6L <sub>1BS</sub> 6K4BS		N N
				.1	it 🏒	60	9 17	IMBERL	INIE	(4	
MATERIA DA E	י - MOKG	ANSIA	ALE 921-36/	<b>V</b> I		<u> </u>	<i>'</i>	IMBEKL			35) 780.1265
WELL PAD		7414 5174			∃F \\			<b>ENGINFERIN</b>	JG & LAND	SURVEYING	35) 789-1365 G. INC.
WELL PAD	WELL PAD I		ENCE PLAT					ENGINEERIN 209 NORTH	IG & LAND 300 West - Ver		G, INC.
WELLS - MORC	GAN STATE 921	NTERFER -36L1BS, N	ORGAN STATE		CON	SULTING		209 NORTH ATE SURVEYED:		NAL, UTAH 84	G, INC.
WELLS - MORO	GAN STATE 921 STATE 921-36L	NTERFER -36L1BS, M	MORGAN STATE GAN STATE 921-	36M1BS,	2155	SULTING North Mai	n Street	209 NORTH	300 WEST - VER	Y: M.S.B.	G, INC. 078
WELLS - MORG	GAN STATE 921 STATE 921-36L	NTERFER -36L1BS, M 1CS, MORO 1CS & MOI SECTION 3	AORGAN STATE GAN STATE 921- RGAN STATE 92 <sup>-</sup> 16, T9S, R21E,	36M1BS,	2155 Sher	SULTING	n Street 82801	209 NORTH ATE SURVEYED: 29-11	300 WEST - VER	RNAL, UTAH 84 SY: M.S.B. T.J.R.	G, INC. 078







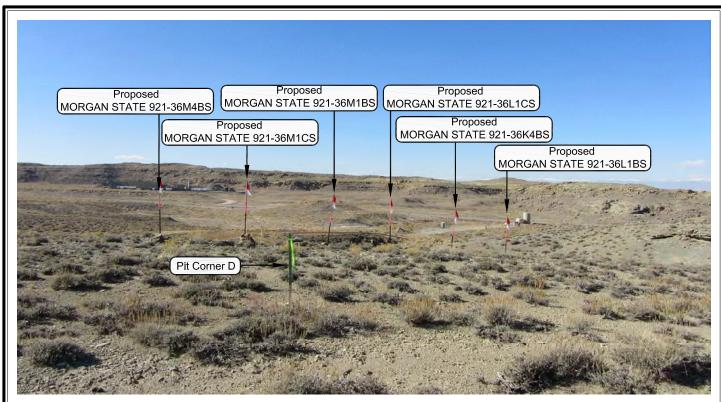


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

**CAMERA ANGLE: NORTHWESTERLY** 



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

#### **CAMERA ANGLE: SOUTHWESTERLY**

## Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

#### WELL PAD - MORGAN STATE 921-36M

**LOCATION PHOTOS** MORGAN STATE 921-36L1BS, MORGAN STATE 921-36K4BS, MORGAN STATE 921-36L1CS, MORGAN STATE 921-36M1BS, MORGAN STATE 921-36M1CS & MORGAN STATE 921-36M4BS LOCATED IN SECTION 36, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.



#### CONSULTING, LLC 2155 North Main Street Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

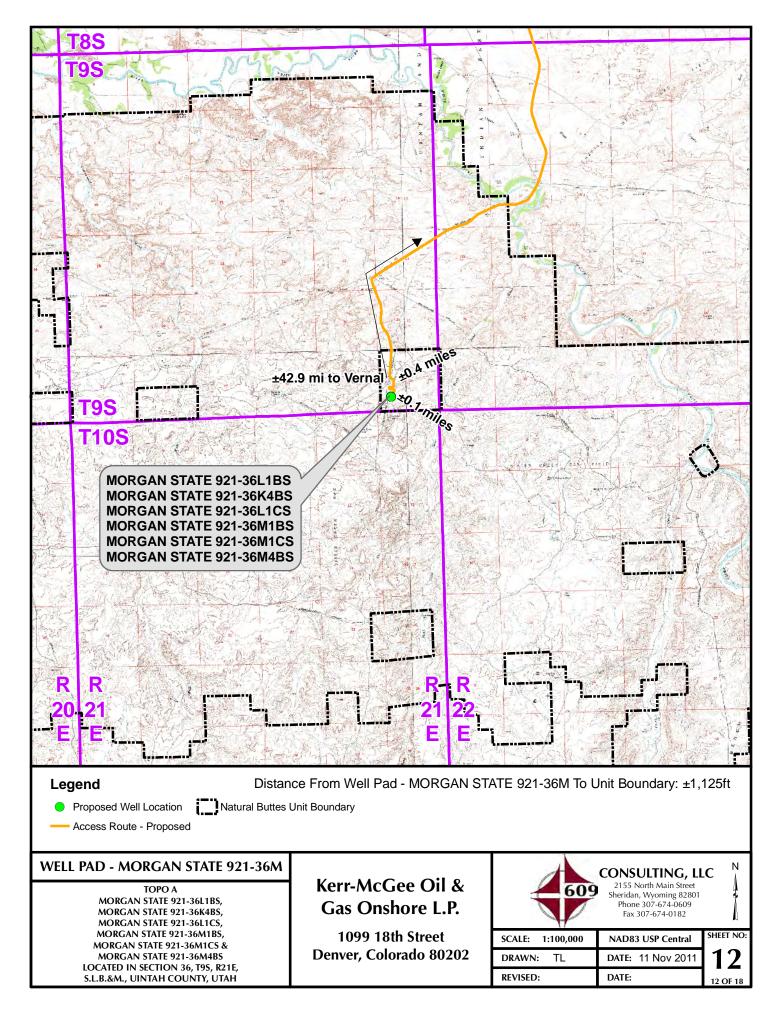
### TIMBERLINE

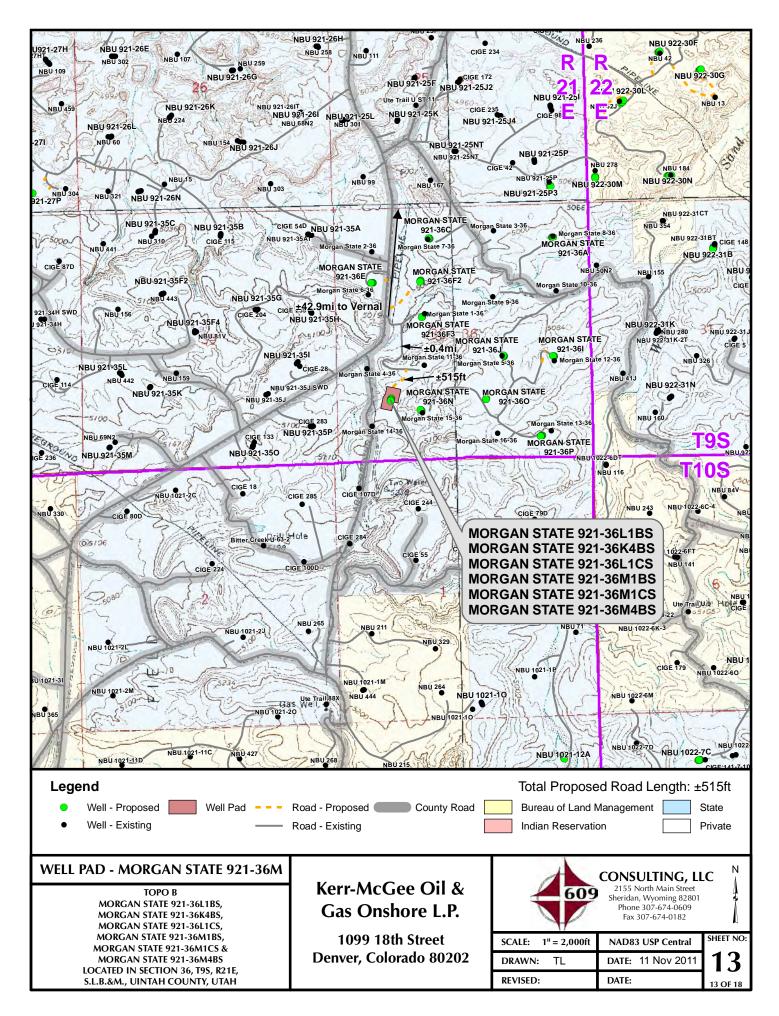
(435) 789-1365

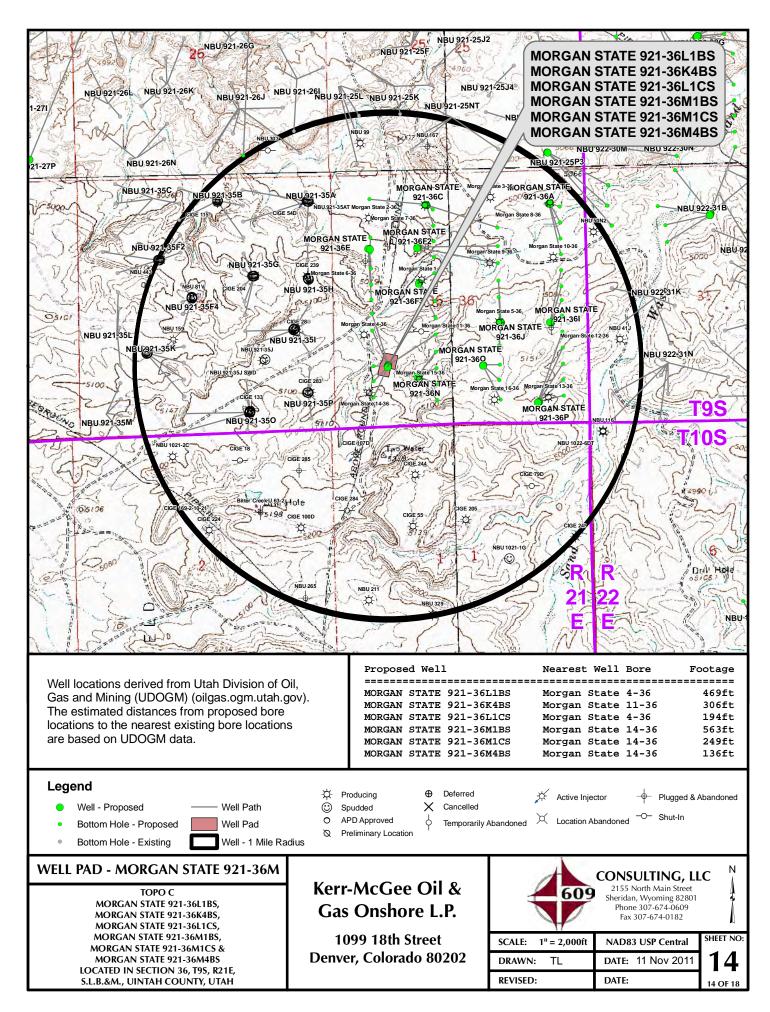
11 OF 18

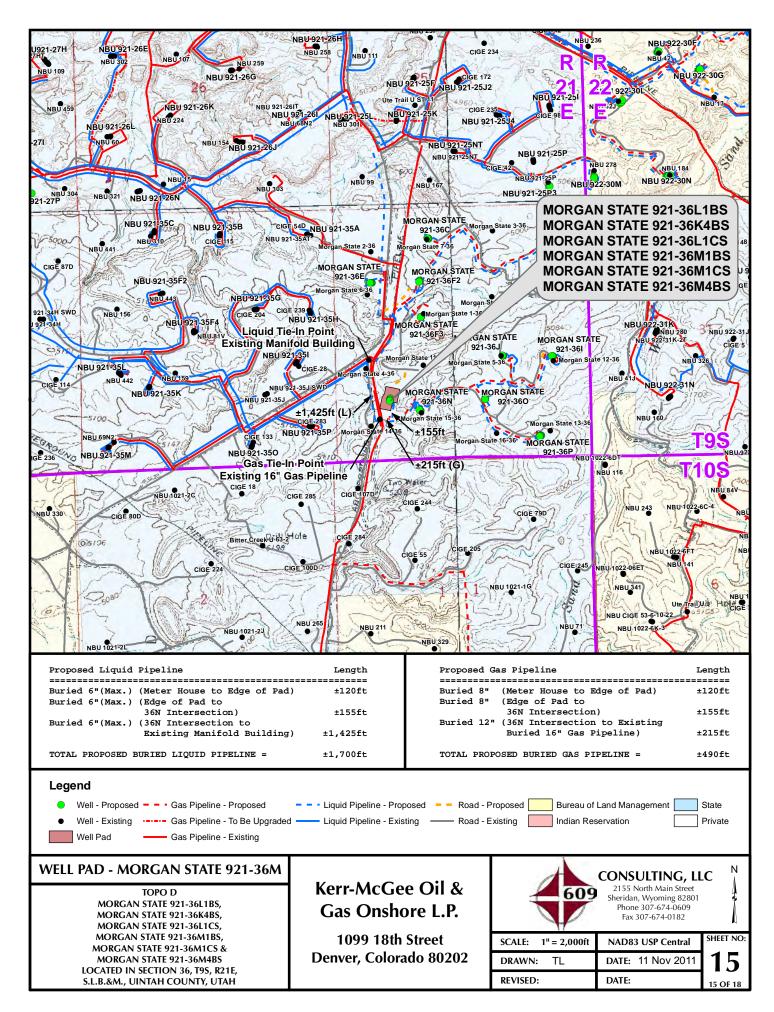
ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

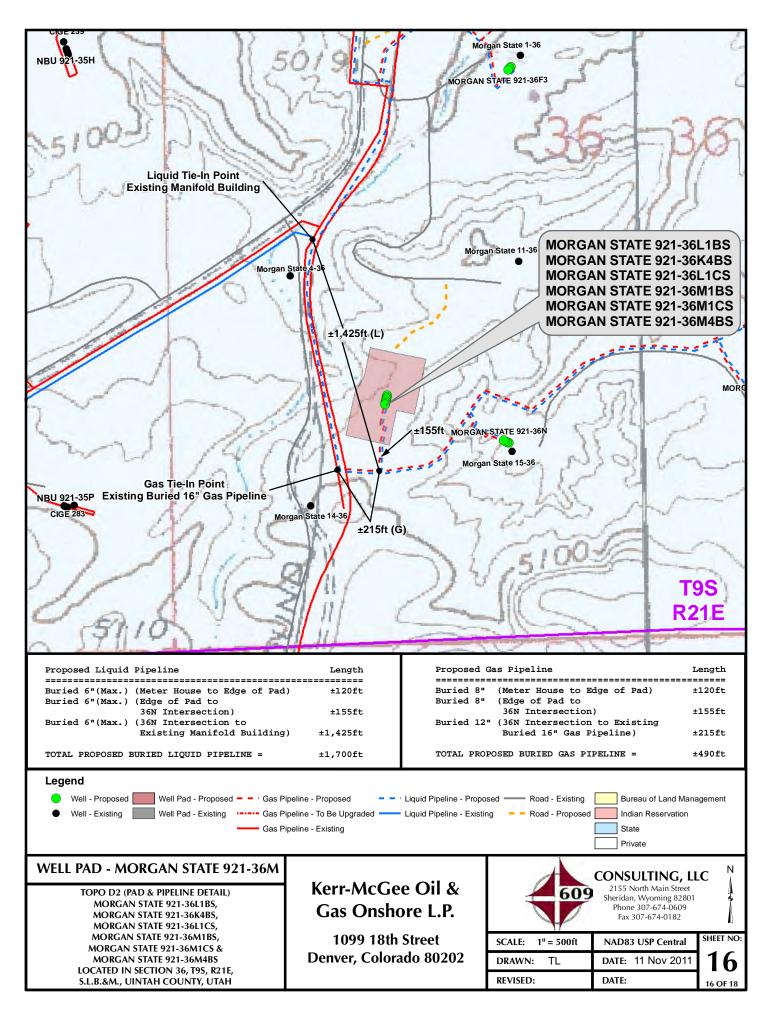
DATE PHOTOS TAKEN: 8-29-11	PHOTOS TAKEN BY: M.S.B.	SHEET NO:
DATE DRAWN: 10-26-11	DRAWN BY: T.J.R.	11
Date Last Revised:		11 OF 18

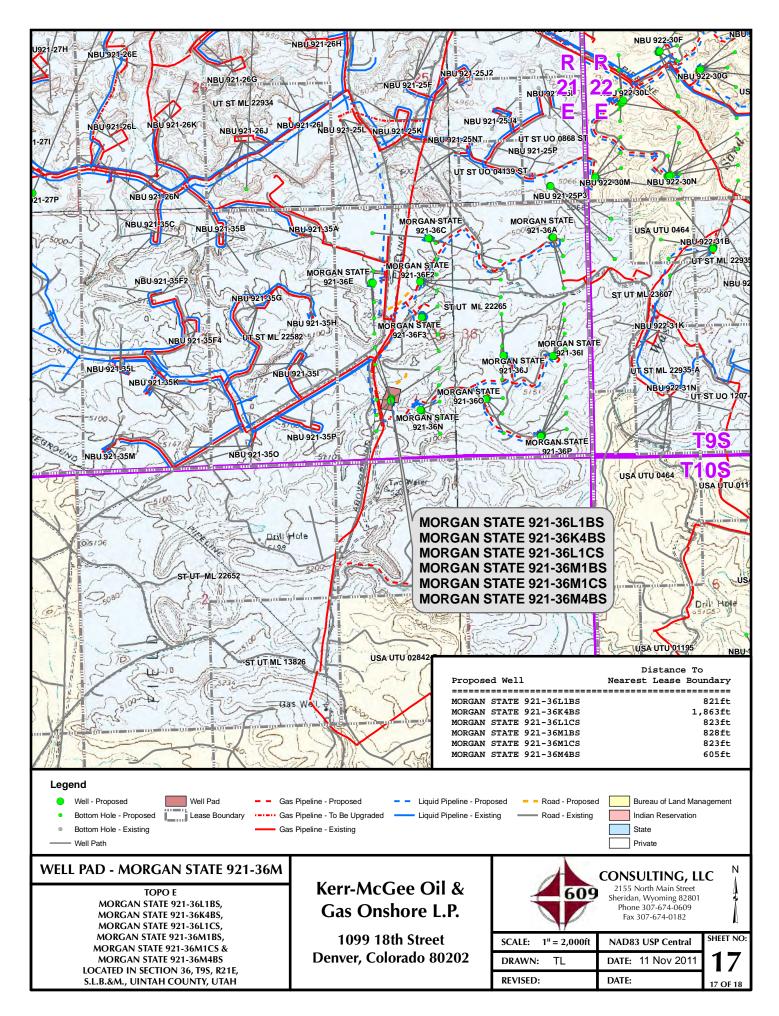












# Kerr-McGee Oil & Gas Onshore, LP WELL PAD – MORGAN STATE 921-36M WELLS – MORGAN STATE 921-36L1BS, MORGAN STATE 921-36K4BS, MORGAN STATE 921-36L1CS, MORGAN STATE 921-36M1BS, MORGAN STATE 921-36M1CS & MORGAN STATE 921-36M4BS Section 36, T9S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 19.4 miles to a service road to the southwest. Exit left and proceed in a southeasterly, then southerly, then southwesterly direction along the service road approximately 0.4 miles to the proposed access road to the south. Follow road flags in a southerly, then southwesterly direction approximately 515 feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 43.4 miles in a southerly direction.

**SHEET 18 OF 18** 

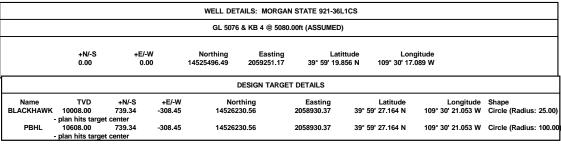
API Well Number: 43047 520 2007 AB - UTM (feet), NAD27, Zone 12N

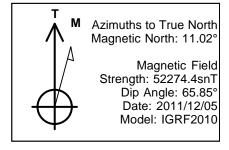
Site: MORGAN STATE 921-36M PAD Well: MORGAN STATE 921-36L1CS

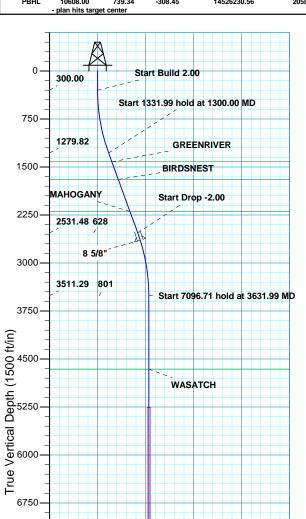
Wellbore: OH

Design: PLAN #1 PRELIMINARY









Vertical Section at 337.35° (1500 ft/in)

7500

8250

9000

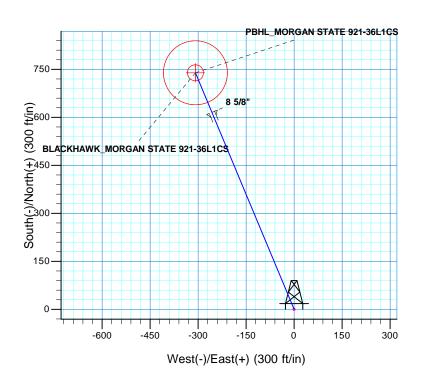
9750

10500

11250

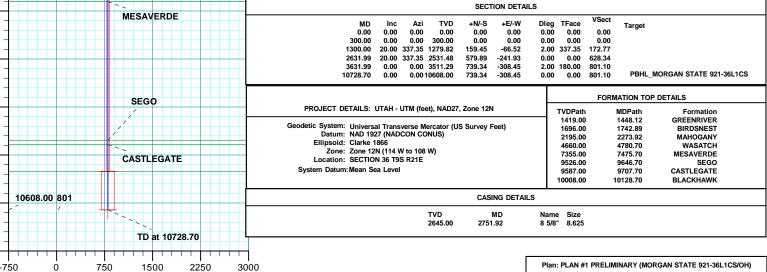
Scientific Drilling

Rocky Mountain Operations



Created By: RobertScott

Date: 15:15, December 05 2011



RECEIVED:

API Well Number: 43047522590000



## **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36M PAD MORGAN STATE 921-36L1CS

OH

Plan: PLAN #1 PRELIMINARY

## **Standard Planning Report**

05 December, 2011



API Well Number: 43047522590000



#### SDI Planning Report



EDM5000-RobertS-Local Database: Company: US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36M PAD

Well: MORGAN STATE 921-36L1CS

Wellbore: OH

Project:

Geo Datum:

Site:

PLAN #1 PRELIMINARY Design:

**Local Co-ordinate Reference:** 

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-36L1CS

GL 5076 & KB 4 @ 5080.00ft (ASSUMED) GL 5076 & KB 4 @ 5080.00ft (ASSUMED)

True

Minimum Curvature

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS) Zone 12N (114 W to 108 W)

System Datum: Mean Sea Level

Map Zone:

MORGAN STATE 921-36M PAD, SECTION 36 T9S R21E Site

Northing: 14,525,506.00 usft Site Position: Latitude: 39° 59' 19.950 N From: Lat/Long Easting: 2,059,253.25 usft Longitude: 109° 30' 17.060 W **Position Uncertainty:** 0.00 ft Slot Radius: **Grid Convergence:** 0.96 13.200 in

Well MORGAN STATE 921-36L1CS, 1252 FSL 1131 FWL

**Well Position** +N/-S -9.47 ft 14,525,496.50 usft Latitude: 39° 59' 19.856 N Northing: +E/-W -2.24 ft Easting: 2,059,251.17 usft Longitude: 109° 30' 17.089 W

**Position Uncertainty** 0.00 ft Wellhead Elevation: **Ground Level:** 5,076.00 ft

Wellbore ОН Magnetics **Model Name** Sample Date Declination **Dip Angle** Field Strength (nT) (°) (°) IGRF2010 2011/12/05 11.01 65.85 52.274

PLAN #1 PRELIMINARY Design Audit Notes: Version: Phase: PLAN Tie On Depth: 0.00 **Vertical Section:** Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 337.35

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	337.35	1,279.82	159.45	-66.52	2.00	2.00	0.00	337.35	
2,631.99	20.00	337.35	2,531.48	579.89	-241.93	0.00	0.00	0.00	0.00	
3,631.99	0.00	0.00	3,511.29	739.34	-308.45	2.00	-2.00	0.00	180.00	
10,728.70	0.00	0.00	10,608.00	739.34	-308.45	0.00	0.00	0.00	0.00	PBHL_MORGAN STA



## **SDI**Planning Report



Database: EDM5000-RobertS-Local
Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 13

UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36M PAD MORGAN STATE 921-36L1CS

Wellbore: OH

Site:

Well:

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-36L1CS GL 5076 & KB 4 @ 5080.00ft (ASSUMED) GL 5076 & KB 4 @ 5080.00ft (ASSUMED)

True

sign:	PLAN #1 PRE	LIMINARY							
nned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build	2.00								
400.00	2.00	337.35	399.98	1.61	-0.67	1.75	2.00	2.00	0.00
500.00	4.00	337.35	499.84	6.44	-2.69	6.98	2.00	2.00	0.00
600.00	6.00	337.35	599.45	14.48	-6.04	15.69	2.00	2.00	0.00
700.00	8.00	337.35	698.70	25.73	-10.73	27.88	2.00	2.00	0.00
800.00	10.00	337.35	797.47	40.17	-16.76	43.52	2.00	2.00	0.00
900.00	12.00	337.35	895.62	57.78	-24.10	62.60	2.00	2.00	0.00
1,000.00	14.00	337.35	993.06	78.54	-32.76	85.10	2.00	2.00	0.00
1,100.00	16.00	337.35	1,089.64	102.42	-42.73	110.98	2.00	2.00	0.00
1,200.00	18.00	337.35	1,185.27	129.40	-53.99	140.21	2.00	2.00	0.00
1,300.00	20.00	337.35	1,279.82	159.45	-66.52	172.77	2.00	2.00	0.00
	9 hold at 1300.00		4.070.70	404.04	70.00	000.07	2.22	2.22	2.22
1,400.00	20.00	337.35	1,373.78	191.01	-79.69	206.97	0.00	0.00	0.00
1,448.12	20.00	337.35	1,419.00	206.20	-86.03	223.43	0.00	0.00	0.00
GREENRIV	ER								
1,500.00	20.00	337.35	1,467.75	222.58	-92.86	241.17	0.00	0.00	0.00
1,600.00	20.00	337.35	1,561.72	254.14	-106.03	275.37	0.00	0.00	0.00
1,700.00	20.00	337.35	1,655.69	285.71	-119.20	309.58	0.00	0.00	0.00
1,742.89	20.00	337.35	1,696.00	299.25	-124.84	324.25	0.00	0.00	0.00
BIRDSNES	Γ								
4 000 00	20.00	227.25	4 740 00	247.07	420.20	242.70	0.00	0.00	0.00
1,800.00 1,900.00	20.00 20.00	337.35 337.35	1,749.66 1,843.63	317.27 348.84	-132.36 -145.53	343.78 377.98	0.00	0.00	0.00
2,000.00	20.00	337.35	1,937.60	380.40	-143.33	412.18	0.00	0.00	0.00
2,100.00	20.00	337.35	2,031.57	411.97	-171.87	446.38	0.00	0.00	0.00
2,200.00	20.00	337.35	2,125.54	443.54	-185.04	480.59	0.00	0.00	0.00
2,273.92	20.00	337.35	2,195.00	466.87	-194.77	505.87	0.00	0.00	0.00
MAHOGAN									
2,300.00	20.00	337.35	2,219.51	475.10	-198.21	514.79	0.00	0.00	0.00
2,400.00	20.00	337.35	2,313.48	506.67	-211.38	548.99	0.00	0.00	0.00
2,500.00	20.00	337.35	2,407.45	538.23	-224.55	583.19	0.00	0.00	0.00
2,600.00	20.00	337.35	2,501.42	569.80	-237.71	617.39	0.00	0.00	0.00
2,631.99	20.00	337.35	2,531.48	579.89	-241.93	628.34	0.00	0.00	0.00
Start Drop	2.00								
2,700.00	18.64	337.35	2,595.66	600.66	-250.59	650.84	2.00	-2.00	0.00
2,751.92	17.60	337.35	2,645.00	615.56	-256.81	666.98	2.00	-2.00	0.00
8 5/8"									
2,800.00	16.64	337.35	2,690.95	628.62	-262.26	681.14	2.00	-2.00	0.00
2,900.00	14.64	337.35	2,787.24	653.50	-272.64	708.09	2.00	-2.00	0.00
3,000.00	12.64	337.35	2,884.42	675.27	-281.72	731.68	2.00	-2.00 2.00	0.00
3,100.00	10.64	337.35	2,982.35	693.89	-289.48 205.03	751.85 768.50	2.00	-2.00 2.00	0.00
3,200.00 3,300.00	8.64 6.64	337.35 337.35	3,080.94 3,180.04	709.34 721.61	-295.93 -301.05	768.59 781.89	2.00 2.00	-2.00 -2.00	0.00 0.00
3,400.00	4.64	337.35 337.35	3,180.04 3,279.56	721.61 730.68	-301.05 -304.83	781.89 791.72	2.00	-2.00 -2.00	0.00
3,500.00	2.64	337.35	3,379.35	736.54	-307.28	798.06	2.00	-2.00	0.00
3,600.00	0.64	337.35	3,479.30	739.18	-308.38	800.92	2.00	-2.00	0.00
3,631.99	0.00	0.00	3,511.29	739.34	-308.45	801.10	2.00	-2.00	0.00
	'1 hold at 3631.99								
3,700.00	0.00	0.00	3,579.30	739.34	-308.45	801.10	0.00	0.00	0.00
3,800.00	0.00	0.00	3,679.30	739.34	-308.45	801.10	0.00	0.00	0.00



Well:

Wellbore:

## **SDI**Planning Report



Database: EDM5000-F
Company: US ROCKIE
Project: UTAH - UTN
Site: MORGAN S

EDM5000-RobertS-Local US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36M PAD MORGAN STATE 921-36L1CS

ОН

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-36L1CS GL 5076 & KB 4 @ 5080.00ft (ASSUMED) GL 5076 & KB 4 @ 5080.00ft (ASSUMED)

True

Design:	PLAN #1 PRE	LIMINARY							
Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,900.00 4,000.00 4,100.00 4,200.00 4,300.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	3,779.30 3,879.30 3,979.30 4,079.30 4,179.30	739.34 739.34 739.34 739.34 739.34	-308.45 -308.45 -308.45 -308.45 -308.45	801.10 801.10 801.10 801.10 801.10	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
4,400.00 4,500.00 4,600.00 4,700.00 4,780.70	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	4,279.30 4,379.30 4,479.30 4,579.30 4,660.00	739.34 739.34 739.34 739.34 739.34	-308.45 -308.45 -308.45 -308.45 -308.45	801.10 801.10 801.10 801.10	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
WASATCH									
4,800.00 4,900.00 5,000.00 5,100.00 5,200.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	4,679.30 4,779.30 4,879.30 4,979.30 5,079.30	739.34 739.34 739.34 739.34 739.34	-308.45 -308.45 -308.45 -308.45 -308.45	801.10 801.10 801.10 801.10 801.10	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
5,300.00 5,400.00 5,500.00 5,600.00 5,700.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	5,179.30 5,279.30 5,379.30 5,479.30 5,579.30	739.34 739.34 739.34 739.34 739.34	-308.45 -308.45 -308.45 -308.45 -308.45	801.10 801.10 801.10 801.10 801.10	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
5,800.00 5,900.00 6,000.00 6,100.00 6,200.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	5,679.30 5,779.30 5,879.30 5,979.30 6,079.30	739.34 739.34 739.34 739.34 739.34	-308.45 -308.45 -308.45 -308.45 -308.45	801.10 801.10 801.10 801.10 801.10	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
6,300.00 6,400.00 6,500.00 6,600.00 6,700.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	6,179.30 6,279.30 6,379.30 6,479.30 6,579.30	739.34 739.34 739.34 739.34 739.34	-308.45 -308.45 -308.45 -308.45 -308.45	801.10 801.10 801.10 801.10 801.10	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
6,800.00 6,900.00 7,000.00 7,100.00 7,200.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	6,679.30 6,779.30 6,879.30 6,979.30 7,079.30	739.34 739.34 739.34 739.34 739.34	-308.45 -308.45 -308.45 -308.45 -308.45	801.10 801.10 801.10 801.10 801.10	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
7,300.00 7,400.00 7,475.70 <b>MESAVERDE</b>	0.00 0.00 0.00	0.00 0.00 0.00	7,179.30 7,279.30 7,355.00	739.34 739.34 739.34	-308.45 -308.45 -308.45	801.10 801.10 801.10	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
7,500.00	0.00	0.00	7,379.30	739.34	-308.45	801.10	0.00	0.00	0.00
7,600.00	0.00	0.00	7,479.30	739.34	-308.45	801.10	0.00	0.00	0.00
7,700.00 7,800.00 7,900.00 8,000.00 8,100.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	7,579.30 7,679.30 7,779.30 7,879.30 7,979.30	739.34 739.34 739.34 739.34 739.34	-308.45 -308.45 -308.45 -308.45 -308.45	801.10 801.10 801.10 801.10 801.10	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
8,200.00 8,300.00 8,400.00 8,500.00 8,600.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	8,079.30 8,179.30 8,279.30 8,379.30 8,479.30	739.34 739.34 739.34 739.34 739.34	-308.45 -308.45 -308.45 -308.45 -308.45	801.10 801.10 801.10 801.10 801.10	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
8,700.00 8,800.00	0.00 0.00	0.00 0.00	8,579.30 8,679.30	739.34 739.34	-308.45 -308.45	801.10 801.10	0.00 0.00	0.00 0.00	0.00 0.00



## **SDI**Planning Report



Database: Company: Project: Site: EDM5000-RobertS-Local

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36M PAD

Well: MORGAN STATE 921-36L1CS

Wellbore: OF

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-36L1CS GL 5076 & KB 4 @ 5080.00ft (ASSUMED) GL 5076 & KB 4 @ 5080.00ft (ASSUMED)

True

									_
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,900.00	0.00	0.00	8,779.30	739.34	-308.45	801.10	0.00	0.00	0.00
9,000.00	0.00	0.00	8,879.30	739.34	-308.45	801.10	0.00	0.00	0.00
9,100.00	0.00	0.00	8,979.30	739.34	-308.45	801.10	0.00	0.00	0.00
9,200.00	0.00	0.00	9,079.30	739.34	-308.45	801.10	0.00	0.00	0.00
9,300.00	0.00	0.00	9,179.30	739.34	-308.45	801.10	0.00	0.00	0.00
9,400.00	0.00	0.00	9,279.30	739.34	-308.45	801.10	0.00	0.00	0.00
9,500.00	0.00	0.00	9,379.30	739.34	-308.45	801.10	0.00	0.00	0.00
9,600.00	0.00	0.00	9,479.30	739.34	-308.45	801.10	0.00	0.00	0.00
9,646.70	0.00	0.00	9,526.00	739.34	-308.45	801.10	0.00	0.00	0.00
9,700.00	0.00	0.00	9,579.30	739.34	-308.45	801.10	0.00	0.00	0.00
9,707.70	0.00	0.00	9,587.00	739.34	-308.45	801.10	0.00	0.00	0.00
9,800.00	0.00	0.00	9,679.30	739.34	-308.45	801.10	0.00	0.00	0.00
9,900.00	0.00	0.00	9,779.30	739.34	-308.45	801.10	0.00	0.00	0.00
10,000.00	0.00	0.00	9,879.30	739.34	-308.45	801.10	0.00	0.00	0.00
10,100.00	0.00	0.00	9,979.30	739.34	-308.45	801.10	0.00	0.00	0.00
10,128.70	0.00	0.00	10,008.00	739.34	-308.45	801.10	0.00	0.00	0.00
BLACKHAW	K - BLACKHAW	K_MORGAN ST	ATE 921-36L10	cs					
10,200.00	0.00	0.00	10,079.30	739.34	-308.45	801.10	0.00	0.00	0.00
10,300.00	0.00	0.00	10,179.30	739.34	-308.45	801.10	0.00	0.00	0.00
10,400.00	0.00	0.00	10,279.30	739.34	-308.45	801.10	0.00	0.00	0.00
10,500.00	0.00	0.00	10,379.30	739.34	-308.45	801.10	0.00	0.00	0.00
10,600.00	0.00	0.00	10,479.30	739.34	-308.45	801.10	0.00	0.00	0.00
10,700.00	0.00	0.00	10,579.30	739.34	-308.45	801.10	0.00	0.00	0.00
10,728.70	0.00	0.00	10,608.00	739.34	-308.45	801.10	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BLACKHAWK_MORGAI - plan hits target cen - Circle (radius 25.00		0.00	10,008.00	739.34	-308.45	14,526,230.56	2,058,930.36	39° 59' 27.164 N	109° 30' 21.053 W
PBHL_MORGAN STATE - plan hits target cen - Circle (radius 100.0	ter	0.00	10,608.00	739.34	-308.45	14,526,230.56	2,058,930.36	39° 59' 27.164 N	109° 30' 21.053 W

Casing Points						
	Measured Depth (ft)	Vertical Depth (ft)		lame	Casing Diameter (in)	Hole Diameter (in)
	()	(,	ı,	iaille	(,	()
	2,751.92	2,645.00	8 5/8"		8.625	11.000

API Well Number: 43047522590000



#### SDI Planning Report



Database: Company: Project: Site:

EDM5000-RobertS-Local

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36M PAD

Well: MORGAN STATE 921-36L1CS Wellbore: ОН

Design: PLAN #1 PRELIMINARY Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-36L1CS

GL 5076 & KB 4 @ 5080.00ft (ASSUMED) GL 5076 & KB 4 @ 5080.00ft (ASSUMED)

True

nations								
	Measured Depth (ft)	Vertical Depth (ft)		Name	Lithology	Dip (°)	Dip Direction (°)	
	1,448.12	1,419.00	GREENRIVER					
	1,742.89	1,696.00	BIRDSNEST					
	2,273.92	2,195.00	MAHOGANY					
	4,780.70	4,660.00	WASATCH					
	7,475.70	7,355.00	MESAVERDE					
	9,646.70	9,526.00	SEGO					
	9,707.70	9,587.00	CASTLEGATE					
	10,128.70	10,008.00	BLACKHAWK					

Plan Annotations				
Measured	Vertical	Local Coor	dinates	
Depth	Depth	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,300.00	1,279.82	159.45	-66.52	Start 1331.99 hold at 1300.00 MD
2,631.99	2,531.48	579.89	-241.93	Start Drop -2.00
3,631.99	3,511.29	739.34	-308.45	Start 7096.71 hold at 3631.99 MD
10,728.70	10,608.00	739.34	-308.45	TD at 10728.70

Surface Use Plan of Operations 1 of 9

Morgan State 921-36K4BS/ 921-36L1BS/ 921-36L1CS Morgan State 921-36M1BS/ 921-36M1CS/ 921-36M4BS

IVI	ORGAN STATE 921-36K4B	3	
Surface:	1262 FSL / 1134 FWL	SWSW	Lot 4
BHL:	1863 FSL / 2139 FWL	NESW	Lot
M	ORGAN STATE 921-36L1B	S	
Surface:	1272 FSL / 1136 FWL	SWSW	Lot 4
BHL:	2346 FSL / 821 FWL	NWSW	Lot
M	organ state 921-36L1C	S	
Surface:	1252 FSL / 1131 FWL	SWSW	Lot 4
BHL:	1997 FSL / 823 FWL	NWSW	Lot
M	organ state 921-36M1B	SS	
_	ORGAN STATE 921-36M1B 1243 FSL / 1129 FWL	SWSW	Lot 4
_		•	Lot 4 Lot 4
Surface:	1243 FSL / 1129 FWL	SWSW	
Surface: BHL:	1243 FSL / 1129 FWL	SWSW SWSW	
Surface: BHL:	1243 FSL / 1129 FWL 1261 FSL / 828 FWL DRGAN STATE 921-36M1C	SWSW SWSW	
Surface: BHL:	1243 FSL / 1129 FWL 1261 FSL / 828 FWL DRGAN STATE 921-36M1C	SWSW SWSW	Lot 4
Surface: BHL:  MC Surface:	1243 FSL / 1129 FWL 1261 FSL / 828 FWL DRGAN STATE 921-36M1C 1233 FSL / 1127 FWL	SWSW SWSW	Lot 4
Surface: BHL:  MC Surface: BHL:	1243 FSL / 1129 FWL 1261 FSL / 828 FWL DRGAN STATE 921-36M1C 1233 FSL / 1127 FWL	SWSW SWSW SWSW SWSW	Lot 4
Surface: BHL:  MC Surface: BHL:	1243 FSL / 1129 FWL 1261 FSL / 828 FWL DRGAN STATE 921-36M1C 1233 FSL / 1127 FWL 937 FSL / 823 FWL DRGAN STATE 921-36M4E	SWSW SWSW SWSW SWSW	Lot 4
Surface: BHL:  MC Surface: BHL:	1243 FSL / 1129 FWL 1261 FSL / 828 FWL DRGAN STATE 921-36M1C 1233 FSL / 1127 FWL 937 FSL / 823 FWL DRGAN STATE 921-36M4E	SWSW SWSW SWSW SWSW	Lot 4 Lot 4 Lot 4

MODGAN STATE 021-36K/RS

#### Pad: MORGAN STATE 921-36M PAD

Section 36 T9S R21E Mineral Lease: ML-22265

Uintah County, Utah

Operator: Kerr-McGee Oil & Gas Onshore LP

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including but not limited to, APDs/SULAs/ROEs/ROWs and/or easements.)

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

#### A. Existing Roads:

Existing roads consist of county and improved/unimproved lease roads. KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

#### B. Planned Access Roads:

Approximately  $\pm 515$ ' (0.1 miles) of new access road is proposed (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

If there are roads that are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

During the onsite, turnouts, major cut and fills, culverts, bridges, gates, cattle guards, low water crossings, or modifications needed to existing infrastructure/facilities were determined, as applicable, are typically shown on attached Exhibits and Topo maps.

#### C. Location of Existing and Proposed Facilities:

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of the well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) above ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

#### **Gathering Facilities:**

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is  $\pm 490$ ° and the individual segments are broken up as follows:

Surface Use Plan of Operations

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Morgan State 921-36K4BS/ 921-36L1BS/ 921-36L1CS Morgan State 921-36M1BS/ 921-36M1CS/ 921-36M4BS

- $\pm 120^{\circ}$  (0.02 miles) –New 8" buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2 Pad and Pipeline Detail.
- $\pm 155'$  (0.03 miles) –New 8" buried gas pipeline from the edge of pad to the 921-36N intersection. Please refer to Topo D2 Pad and Pipeline Detail.
- ±215' (0.4 miles) –New 12" buried gas pipeline from the 921-36N intersection to the existing buried 16" gas pipeline. Please refer to Topo D2 Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 1,700$ ' and the individual segments are broken up as follows:

- $\pm 120'$  (0.02 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad. Please refer to Topo D2 Pad and Pipeline Detail.
- ±155' (0.03 miles) –New 6" buried liquid pipeline from the edge of pad to the 921-36N intersection. Please refer to Topo D2 Pad and Pipeline Detail.
- $\pm 1,425'$  (0.3 miles) –New 6" buried liquid pipeline from the 921-36N intersection to the existing Manifold Building. Please refer to Topo D2 Pad and Pipeline Detail.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. KMG requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, KMG requests a temporary 45' construction right-of-way 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity and ownership, as well as to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

#### D. <u>Location and Type of Water Supply</u>:

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

#### **Source of Construction Materials:**

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

#### **Methods for Handling Waste Materials:**

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

> RNI in Sec. 5 T9S R22E Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

Ouray #1 SWD in Sec. 1 T9S R21E NBU 159 SWD in Sec. 35 T9S R21E CIGE 112D SWD in Sec. 19 T9S R21E CIGE 114 SWD in Sec. 34 T9S R21E NBU 921-34K SWD in Sec. 34 T9S R21E NBU 921-33F SWD in Sec. 33 T9S R21E NBU 921-34L SWD in Sec. 34 T9S R21E

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

Unless otherwise approved, no oil or other oil based drill additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water, biodegradable polymer soap, bentonite clay, and /or non-toxic additives will be used in the system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions, or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum

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Morgan State 921-36K4BS/ 921-36L1BS/ 921-36L1CS Morgan State 921-36M1BS/ 921-36M1CS/ 921-36M4BS

trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be release into the pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternative is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as the hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods. (e.g. solidification)

Any additional pits necessary for subsequent operations, such as temporary flare pits, or workover pits, will contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of the work.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, including accidental release of fluids, or release in excess of reportable quantities, will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule. Where State wells are participatory to a Federal agreement, according to NTL-3A, the appropriate Federal agencies will be notified.

#### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

#### G. Ancillary Facilities:

None are anticipated.

#### H. Well Site Layout (see Well Pad Design Summary):

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/ egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1927 (NAD27) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

#### I. Plans for Reclamation of the Surface:

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

#### **Interim Reclamation**

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/

Morgan State 921-36K4BS/ 921-36L1BS/ 921-36L1CS Morgan State 921-36M1BS/ 921-36M1CS/ 921-36M4BS

Surface Use Plan of Operations 7 of 9

completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

#### **Final Reclamation**

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

#### Seeding and Measures Common to Interim and Final Reclamation

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

#### J. Surface/Mineral Ownership:

SITLA 675 East 500 South, Suite 500 Salt Lake City, UT 84102

Morgan State 921-36K4BS/ 921-36L1BS/ 921-36L1CS Morgan State 921-36M1BS/ 921-36M1CS/ 921-36M4BS Surface Use Plan of Operations 8 of 9

L. Other Information:

None

RECEIVED: December 20, 2011

Surface Use Plan of Operations 9 of 9

Morgan State 921-36K4BS/ 921-36L1BS/ 921-36L1CS Morgan State 921-36M1BS/ 921-36M1CS/ 921-36M4BS

#### M. Lessee's or Operators' Representative & Certification:

Danielle Piernot Regulatory Analyst II Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6156 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

December 19, 2011
Date



Kerr-McGee Oil & Gas Onshore LP PO Box 173779 DENVER, CO 80217-3779

December 14, 2011

Ms. Diana Mason Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11 Morgan State 921-36L1CS

T9S-R21E

Section 36: SWSW (Surface), NWSW (Bottom Hole)

Surface: 1252' FSL, 1131' FWL Bottom Hole: 1997' FSL, 823' FWL

Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing roads and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joe Matney Sr. Staff Landman

RECEIVED: December 20, 2011

From: Jim Davis
To: APD APPROVAL

**CC:** Danielle Piernot; Julie Jacobson

**Date:** 2/23/2012 3:22 PM

**Subject:** APD Approval: the Kerr McGee Morgan State wells

The following wells have been approved by SITLA including arch and paleo clearance.

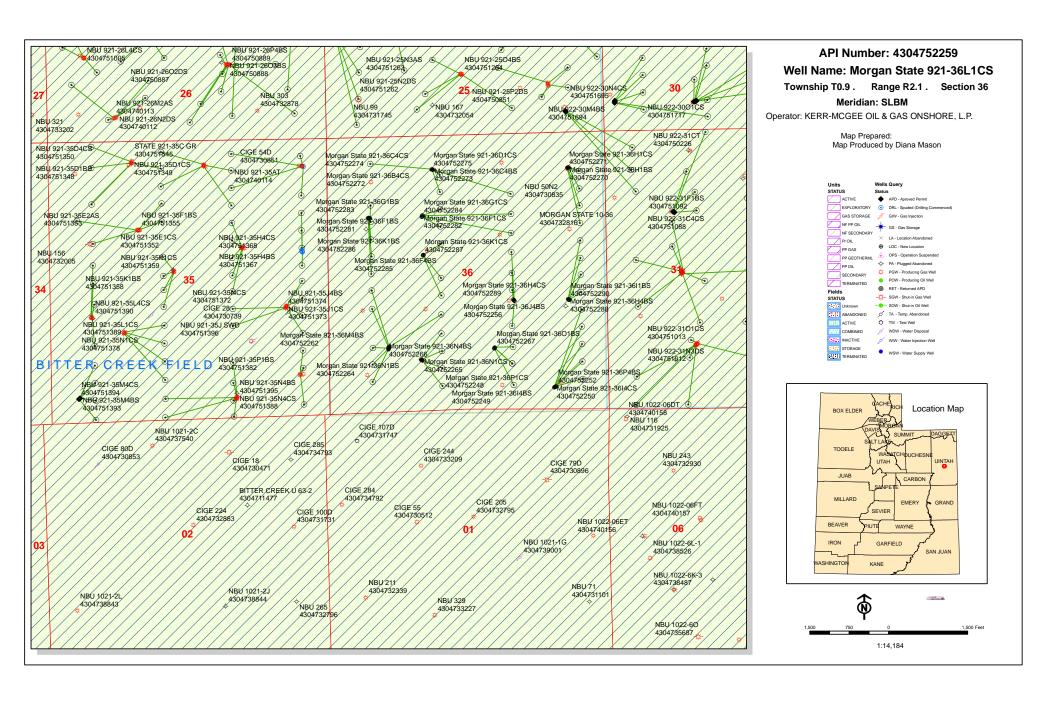
```
Morgan State 921-36G4BS
4304752246
             Morgan State 921-36G4CS
4304752253
4304752255
             Morgan State 921-36J1CS
4304752256
             Morgan State 921-36J4BS
             Morgan State 921-36F1BS
4304752281
4304752282
             Morgan State 921-36F1CS
4304752283
             Morgan State 921-36G1BS
4304752284
             Morgan State 921-36G1CS
             Morgan State 921-36F4BS
4304752285
4304752286
             Morgan State 921-36K1BS
4304752287
             Morgan State 921-36K1CS
             Morgan State 921-36P1BS
4304752247
             Morgan State 921-36P1CS
4304752248
4304752249
             Morgan State 921-36I4BS
             Morgan State 921-36I4CS
4304752250
             Morgan State 921-36P4BS
4304752252
4304752263
             Morgan State 921-36K4CS
4304752264
             Morgan State 921-36N1BS
4304752265
             Morgan State 921-36N1CS
4304752266
             Morgan State 921-36N4BS
4304752276
             Morgan State 921-36D4CS
4304752277
             Morgan State 921-36E1BS
4304752278
             Morgan State 921-36E1CS
             Morgan State 921-36E4BS
4304752279
4304752280
             Morgan State 921-36E4CS
             Morgan State 921-36O4CS
4304752245
             Morgan State 921-36O1CS
4304752254
             Morgan State 921-36O1BS
4304752267
4304752257
             Morgan State 921-36K4BS
4304752258
             Morgan State 921-36L1BS
4304752259
             Morgan State 921-36L1CS
4304752260
             Morgan State 921-36M1BS
4304752261
             Morgan State 921-36M1CS
4304752262
             Morgan State 921-36M4BS
4304752272
             Morgan State 921-36B4CS
4304752273
             Morgan State 921-36C4BS
4304752274
             Morgan State 921-36C4CS
4304752275
             Morgan State 921-36D1CS
```

There are eight more wells on two pads in this section, the 36A pad and the 36I pad, that have not yet been approved. Anadarko is gathering reclamation cost figures on pads similar to those as part of the process of acquiring adequate SITLA bonds.

-Jim

Jim Davis Utah Trust Lands Administration jimdavis1@utah.gov

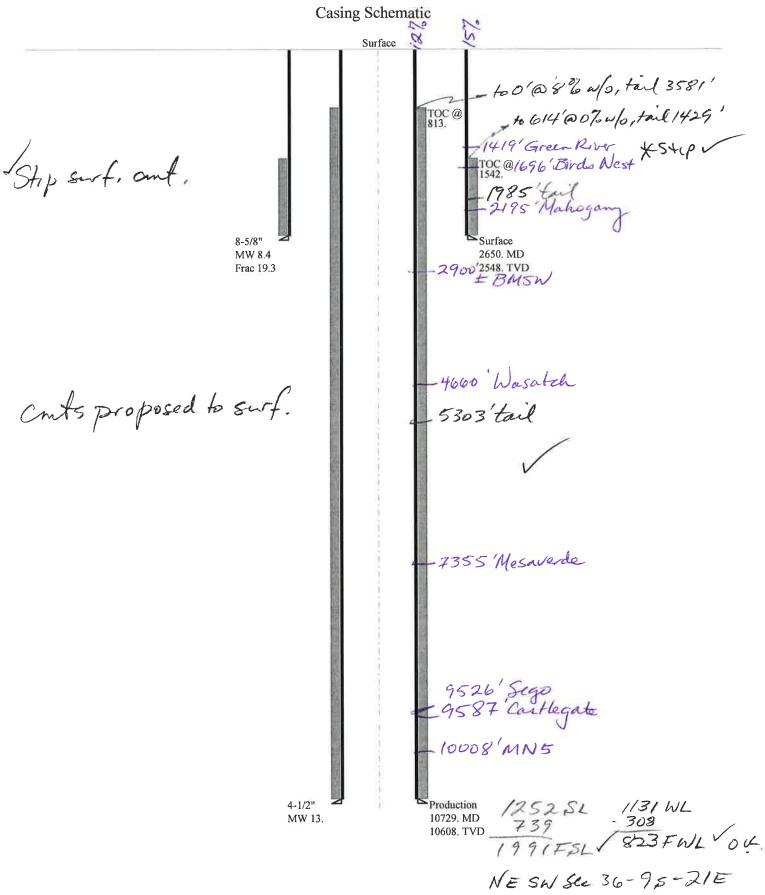
Phone: (801) 538-5156



#### BOPE REVIEW KERR-MCGEE OIL & GAS ONSHORE, L.P. Morgan State 921-36L1CS 43047522590000

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. Morg		RE, L.P. Morgan	State 92	1-36L1CS	3		
String		Surf	Prod		i 🗀		ī	
Casing Size(")		8.625	4.500				ī	
Setting Depth (TVD)		2548	10608				ī	
Previous Shoe Setting Dept	h (TVD)	0	2548				ī	
Max Mud Weight (ppg)		8.4	13.0				ī	
BOPE Proposed (psi)		500	5000				ī	
Casing Internal Yield (psi)		3390	40690		i		i	
Operators Max Anticipated Pressure (psi)		7001	12.7				ī	
Calculations		Surf Stri	nα			8.625	"	
Max BHP (psi)			52*Setting D	Depth*MW=	1113	0.020		
				- F	11113		BOPE Ade	quate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)		Max BH	P-(0.12*Setti	ing Depth)=	807		NO	air drill
MASP (Gas/Mud) (psi)		Max BH	P-(0.22*Setti	ing Depth)=	552		NO I	Reasonable depth in area
					1		·	Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(S	etting Depth -	- Previous Sh	ioe Depth)=	552		NO	
Required Casing/BOPE Tes	st Pressure=				2373	<u> </u>	psi	
*Max Pressure Allowed @	Previous Casing S	Shoe=			0		psi *Ass	umes 1psi/ft frac gradient
					-			
Calculations		Prod Stri				4.500	"	
Max BHP (psi)		.0	52*Setting D	peptn*M w =	7171		DODE Ado	quate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)		Max BH	P-(0.12*Setti	ing Depth)=	5898	_	NO I	quate For Drining And Setting Casing at Depth.
MASP (Gas/Mud) (psi)			P-(0.22*Setti		4837		YES	ОК
······································			- (**== ~****	8	4837			Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(S	etting Depth -	- Previous Sh	ioe Depth)=	5398		NO I	Reasonable
Required Casing/BOPE Tes	st Pressure=				5000		psi	
*Max Pressure Allowed @	Previous Casing S	Shoe=			2548		psi *Ass	umes 1psi/ft frac gradient
0.1.1.0		g, I					"	
Calculations  Max BHP (psi)		String	52*Setting D	Aenth*MW-	<u> </u>		··	
Max BIII (psi)		.0	52 Setting E	cptii w w =	<u> </u>		BOPE Ade	quate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)		Max BH	P-(0.12*Setti	ing Depth)=		_	NO I	quare for 21ming 11mi germing enoming at 24pmi
MASP (Gas/Mud) (psi)			P-(0.22*Setti		H		NO I	
· · · · ·								Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(S	etting Depth -	- Previous Sh	ioe Depth)=		<del>-</del>	NO	
Required Casing/BOPE Tes	st Pressure=						psi	
*Max Pressure Allowed @	Previous Casing S	Shoe=					psi *Ass	umes 1psi/ft frac gradient
Calculations		£4!					,,	
Max BHP (psi)		String	52*Setting D	enth*MW=				
(P02)			oz setting z	optii iii ii			BOPE Ade	quate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)		Max BH	P-(0.12*Setti	ing Depth)=			NO	
MASP (Gas/Mud) (psi)		Max BH	P-(0.22*Setti	ing Depth)=	Ë		NO I	
					-			Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(S	etting Depth -	- Previous Sh	ioe Depth)=			NO	
Required Casing/BOPE Tes	st Pressure=						psi	
*Max Pressure Allowed @ Previous Casing Shoe=					=	psi *Ass	umes 1psi/ft frac gradient	

# 43047522590000 Morgan State 921-36L1CS



43047522590000 Morgan State 921-36L1CS Well name:

KERR-MCGEE OIL & GAS ONSHORE, L.P. Operator:

Surface

Project ID: String type: 43-047-52259

**UINTAH** COUNTY Location:

Minimum design factors: **Environment:** Design parameters: H2S considered? No Collapse: Collapse 74 °F Mud weight: 8.400 ppg Design factor 1.125 Surface temperature: 110 °F Design is based on evacuated pipe. Bottom hole temperature: 1.40 °F/100ft Temperature gradient: Minimum section length: 100 ft

> Burst: 1.00 Cement top: 1,542 ft Design factor

**Burst** 

Max anticipated surface

pressure: 2,243 psi 0.120 psi/ft Internal gradient: Calculated BHP 2,548 psi

No backup mud specified.

Tension: 8 Round STC: 1.80 (J) 1.70 (J) 8 Round LTC: Buttress:

1.60 (J) 1.50 (J) Premium: 1.50 (B) Body yield:

Tension is based on air weight. Neutral point: 2.314 ft **Directional well information:** 

Kick-off point 300 ft Departure at shoe: 634 ft Maximum dogleg: 2 °/100ft 19.64° Inclination at shoe:

Re subsequent strings:

Next setting depth: 10,608 ft Next mud weight: 13.000 ppg Next setting BHP: 7,164 psi Fracture mud wt: 19.250 ppg 2,548 ft Fracture depth: Injection pressure: 2,548 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2650	8.625	28.00	I-55	LT&C	2548	2650	7.892	104940
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1112	1842	1.657	2548	3390	1.33	71. <b>4</b>	348	4.88 J

Helen Sadik-Macdonald Prepared Div of Oil, Gas & Mining

Phone: 801 538-5357 FAX: 801-359-3940

Date: February 24,2012 Salt Lake City, Utah

Collapse is based on a vertical depth of 2548 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:

43047522590000 Morgan State 921-36L1CS

Operator:

KERR-MCGEE OIL & GAS ONSHORE, L.P.

String type:

Project ID:

Design parameters:

Production

43-047-52259

Location:

**UINTAH** 

COUNTY

Minimum design factors: **Environment:** 

Collapse

Mud weight:

13.000 ppg Design is based on evacuated pipe.

Collapse: Design factor 1.125 H2S considered?

No 74 °F Surface temperature: Bottom hole temperature:

223 °F

Temperature gradient:

1.40 °F/100ft

Minimum section length:

100 ft

**Burst:** 

Design factor

1.00 Cement top: 813 ft

**Burst** 

Max anticipated surface

No backup mud specified.

pressure: Internal gradient: Calculated BHP

4,830 psi 0.220 psi/ft

7,164 psi

**Tension:** 

8 Round STC: 1.80 (J) 8 Round LTC: 1.80 (J) 1.60 (J) Buttress:

Premium: Body yield: 1.50 (J)

1.60 (B)

Directional well information:

300 ft Kick-off point Departure at shoe: 801 ft Maximum dogleg: 2 °/100ft

Inclination at shoe:

0°

Tension is based on air weight.

Neutral point:

8,668 ft

Estimated cost:

159,602 (\$)

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
2	5000	4.5	11.60	HCP-110	DQX	4879	5000	3.875	132000
1	5729	4.5	11.60	HCP-110	LT&C	10608	10729	3.875	27602
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
2	3295	8110	2.461	5904	10690	1.81	123.1	367.2	2.98 B
1	7164	8650	1.207	7164	10690	1.49	66.5	279	4.20 J

Prepared

Helen Sadik-Macdonald

Div of Oil, Gas & Mining by:

Phone: 801 538-5357 FAX: 801-359-3940

Date: February 24,2012 Salt Lake City, Utah

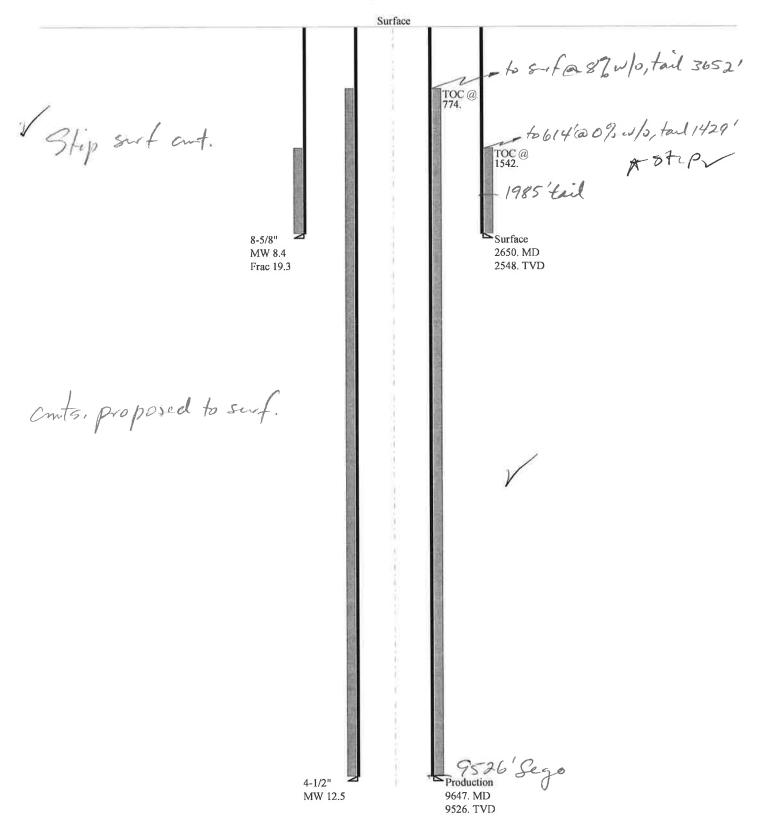
Collapse is based on a vertical depth of 10608 ft, a mud weight of 13 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

43047522590000 Morgan State 921-36L1CS

Casing Schematic



Well name:

43047522590000 Morgan State 921-36L1CS

Operator:

KERR-MCGEE OIL & GAS ONSHORE, L.P.

String type:

Surface

Project ID:

43-047-52259

Location:	UINTAH	COUNTY

Design parameters: Collapse		Minimum design fa	actors:	Environment: H2S considered?	No
Mud weight: Design is based on evacu	8.400 ppg ated pipe.	Design factor	1.125	Surface temperature: Bottom hole temperature Temperature gradient: Minimum section length:	74 °F
		Burst:		_	
		Design factor	1.00	Cement top:	1,542 ft
Burst		· ·			
Max anticipated surface					
pressure:	806 psi				
Internal gradient:	0.120 psi/ft	Tension:		Directional well informa	ation:
Calculated BHP	1,112 psi	8 Round STC:	1.80 (J)	Kick-off point	300 ft
	•	8 Round LTC:	1.70 (J)	Departure at shoe:	634 ft
No backup mud specified		Buttress:	1.60 (J)	Maximum dogleg:	2 °/100ft
		Premium:	1.50 (J)	Inclination at shoe:	19.64°
		Body yield:	1.50 (B)	Re subsequent strings:	
				Next setting depth:	O ft
		Tension is based on a	air weight.	Next mud weight:	13.000 ppg
		Neutral point:	2,314 ft	Next setting BHP:	0 psi
				Fracture mud wt:	19.250 ppg
				Fracture depth:	2,548 ft
				Injection pressure:	2,548 psi

Run	Segment		Nominal		End	True Vert	Measured	Drift	Est.
Seq	Length (ft)	Size (in)	Weight (lbs/ft)	Grade	Finish	Depth (ft)	Depth (ft)	Diameter (in)	Cost (\$)
1	2650	8.625	28.00	1-55	LT&C	2548	2650	7.892	104940
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1112	1842	1.657	1112	3390	3.05	71.4	348	4.88 J

Prepared

Helen Sadik-Macdonald by: Div of Oil, Gas & Mining

Phone: 801 538-5357 FAX: 801-359-3940

Date: February 24,2012 Salt Lake City, Utah

Collapse is based on a vertical depth of 2548 ft, a mud weight of 8.4 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

43047522590000 Morgan State 921-36L1CS Well name:

KERR-MCGEE OIL & GAS ONSHORE, L.P. Operator:

Production Project ID: String type: 43-047-52259

**UINTAH** COUNTY Location:

Design parameters: Collapse Mud weight: Internal fluid density:	12,500 ppg 1,500 ppg	Minimum design fa Collapse: Design factor	1.125	Environment: H2S considered? Surface temperature: Bottom hole temperature: Temperature gradient: Minimum section length:	No 74 °F 207 °F 1.40 °F/100ft 100 ft
Burst		Burst: Design factor	1.00	Cement top:	774 ft
Max anticipated surface pressure: Internal gradient: Calculated BHP No backup mud specified.	4,090 psi 0.220 psi/ft 6,186 psi	Tension: 8 Round STC: 8 Round LTC: Buttress: Premium: Body yield:	1.80 (J) 1.80 (J) 1.60 (J) 1.50 (J) 1.60 (B)	Directional well informat Kick-off point Departure at shoe: Maximum dogleg: Inclination at shoe:	cion: 300 ft 801 ft 2 °/100ft 0 °

Tension is based on air weight. Neutral point: 7,867 ft

Estimated cost:

193,340 (\$)

Run Seq	Segment Length	Size	Nominal Weight	Grade	End Finish	True Vert Depth	Measured Depth	Drift Diameter	Est. Cost
2	<b>(ft)</b> 5000	(in) 4.5	(lbs/ft) 11.60	1-80	DQX	<b>(ft)</b> 4879	(ft) 5000	(in) 3.875	( <b>\$</b> ) 132000
1	4647	4.5 4.5	11.60	1-80	LT&C	9526	9647	3.875	61340
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
2	2788	5895	2.114	5164	7780	1.51	110.5	267	2.42 J
1	5444	6360	1.168	6186	7780	1.26	53.9	212	3.93 J

Helen Sadik-Macdonald Prepared by: Div of Oil, Gas & Mining

Phone: 801 538-5357 FAX: 801-359-3940

Date: February 24,2012 Salt Lake City, Utah

#### Remarks:

Collapse is based on a vertical depth of 9526 ft, a mud weight of 12.5 ppg. An internal gradient of .078 psi/ft was used for collapse from TD Collapse strength is based on the Westcott, Dunlop & Kemler method of blaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

# **ON-SITE PREDRILL EVALUATION**

# Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.

Well Name Morgan State 921-36L1CS

API Number 43047522590000 APD No 5086 Field/Unit NATURAL BUTTES

Location: 1/4,1/4 SWSW Sec 36 Tw 9.0S Rng 21.0E 1252 FSL 1131 FWL

GPS Coord (UTM) 627599 4427590 Surface Owner

#### **Participants**

D. Piernot, S. Wopsock, C. Chase, D. Holmes, K Gathings, - Anadarko; C.Jensen, D. Hackford – DOGM; M.Batty, J. Slaugh – Timberline; A. Hansen- DWR, J. Davis - SITLA

#### Regional/Local Setting & Topography

This location is within the Natural Buttes Unit but is not part of the Natural Buttes Unit. It is approximately 14 road miles southeast of Ouray, Utah. The general area is at the head of a long unnamed wash east of Cottonwood Wash. Both washes enter the White River in the same general area, approximately six miles to the north. The area is characterized by rolling hills, which are frequently divided by somewhat gentle draws that drain northerly. This unnamed wash is an ephemeral drainage. No springs, seeps or streams exist in the area. The washes are sometimes rimmed with steep side hills, which have exposed sandstone bedrock cliffs along the rims. six directional wells will be drilled from this location which will be served by one pad and reserve pit. Location rests on top of a butte / ridge with very steep slopes. Any spill could likey be very difficult to contain. Areas to be found below pad are existing pads to the west and a drainage to the east. Pit will require heavy fills on the West side and an irregular pad shape to keep disturbances to the steep slopes at a minimum.

#### Surface Use Plan

**Current Surface Use** 

Wildlfe Habitat

New Road
Miles

Well Pad

Src Const Material Surface Formation

0.01 Width 120 Length 260 Onsite UNTA

**Ancillary Facilities** N

Waste Management Plan Adequate?

#### **Environmental Parameters**

Affected Floodplains and/or Wetlands N

#### Flora / Fauna

dominant vegetation;

Galletta, shadscale and rabbit brush surround the well pad.

Wildlife:

habitat contains forbs that may be suitable browse for deer, antelope and rabbits, though none were observed. Disturbed soils are not habitat for wildlife. DWR had no comment / issues

#### Soil Type and Characteristics

3/20/2012 Page 1

Very flaggy loams with clastic basalts upon exposed sandstone bedrock

#### **Erosion Issues** Y

This location is on top of a ridge with significant existing erosion present

#### Sedimentation Issues N

It is unlikely sediment will be transported onto location because of its elevation

#### Site Stability Issues Y

compaction is critical at this location

#### **Drainage Diverson Required?** Y

Stock piling will be sufficient

#### Berm Required? Y

Berming of the West side ( at a minimum) needed to protect very steep slopes

#### **Erosion Sedimentation Control Required?** Y

Berming and stockpiling to be strategically placed to help with these issues

Paleo Survey Run? Y Paleo Potental Observed? N Cultural Survey Run? Y Cultural Resources? N

#### Reserve Pit

Site-Specific Factors	Site Ranking				
Distance to Groundwater (feet)	100 to 200	5			
Distance to Surface Water (feet)	>1000	0			
Dist. Nearest Municipal Well (ft)	>5280	0			
Distance to Other Wells (feet)	>1320	0			
Native Soil Type	Mod permeability	10			
Fluid Type	Fresh Water	5			
Drill Cuttings	Normal Rock	0			
<b>Annual Precipitation (inches)</b>	10 to 20	5			
Affected Populations					
Presence Nearby Utility Conduits	Unknown	10			
	Final Score	35	1 Sensitivity Level		

#### Characteristics / Requirements

Pit to be dug to a depth of 12'. Because of the likely hood of disturbance to existing sandstone bedrock and clastic basalt observed on the surface, pit underlayment is to be used to protect the liner from potential puncture. Operators representative was verbally informed of this decision and was an integral part of the decision making.

Closed Loop Mud Required? N  $\,$  Liner Required? Y  $\,$  Liner Thickness 20  $\,$  Pit Underlayment Required? Y

#### **Other Observations / Comments**

Conversation had with Sheila Wopsock on 01/16/2012 about berming the West side of location

3/20/2012 Page 2

3/20/2012

Chris Jensen 1/11/2012
Evaluator Date / Time

Page 3

# Application for Permit to Drill Statement of Basis

3/20/2012 Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Owner	<b>CBM</b>
5086	43047522590000	SITLA	GW	S	No

Operator KERR-MCGEE OIL & GAS ONSHORE, L.P. Surface Owner-APD

Well Name Morgan State 921-36L1CS Unit

Field NATURAL BUTTES Type of Work DRILL

Location SWSW 36 9S 21E S 1252 FSL 1131 FWL GPS Coord

(UTM) 627602E 4427574N

#### **Geologic Statement of Basis**

Kerr McGee proposes to set 2,650' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 2,900'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 36. The well is listed as 2,640 feet deep and used for drilling water. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The proposed casing and cement should adequately protect. Any usable ground water.

Brad Hill **APD Evaluator** 

2/1/2012 **Date / Time** 

#### **Surface Statement of Basis**

Surface

Location is an existing well pad in the Morgan State unit which is within the Natural Buttes unit in southern Uintah County. There are deep drainages close to the proposed activities which are eventual tributaries to the white river. Because the soil is erodible and any spills may readily reach the dry wash, pad is to be bermed and stockpiles act as a buffer for these hydrologic features. Due to the rock within the soils and likely hood of disturbance to sandstone bedrock, the pit is to be underlined to prevent puncture. The operators' representative was present and an integral part of this decision. This location is very near other disturbances previously permitted for gas recovery.

Chris Jensen
Onsite Evaluator

1/11/2012 **Date / Time** 

#### Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 16 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Surface	The well site shall be bermed to prevent fluids from leaving the pad.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.

The reserve pit shall be fenced upon completion of drilling operations.

RECEIVED: March 20, 2012

#### **WORKSHEET** APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 12/20/2011 API NO. ASSIGNED: 43047522590000

WELL NAME: Morgan State 921-36L1CS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) PHONE NUMBER: 720 929-6156

**CONTACT:** Danielle Piernot

PROPOSED LOCATION: SWSW 36 090S 210E Permit Tech Review:

> **SURFACE: 1252 FSL 1131 FWL** Engineering Review:

> BOTTOM: 1997 FSL 0823 FWL **Geology Review:**

**COUNTY: UINTAH** 

**LATITUDE: 39.98871** LONGITUDE: -109.50541 UTM SURF EASTINGS: 627602.00 NORTHINGS: 4427574.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 3 - State

LEASE NUMBER: ML 22265 PROPOSED PRODUCING FORMATION(S): BLACKHAWK

SURFACE OWNER: 3 - State **COALBED METHANE: NO** 

**RECEIVED AND/OR REVIEWED: LOCATION AND SITING:** 

✓ PLAT R649-2-3.

Bond: STATE/FEE - 22013542 Unit:

**Potash** R649-3-2. General

Oil Shale 190-5

Oil Shale 190-3 R649-3-3. Exception

**Drilling Unit** Oil Shale 190-13

Board Cause No: Cause 173-24 Water Permit: 43-8496

Effective Date: 10/5/2009 **RDCC Review:** 

Siting: 460' Fr Exterior Lease Boundary Fee Surface Agreement

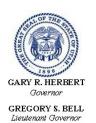
✓ Intent to Commingle R649-3-11. Directional Drill

**Commingling Approved** 

Comments: Presite Completed

Stipulations:

3 - Commingling - ddoucet 5 - Statement of Basis - bhill 15 - Directional - dmason 17 - Oil Shale 190-5(b) - dmason 25 - Surface Casing - hmacdonald



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

### Permit To Drill

\*\*\*\*\*\*

Well Name: Morgan State 921-36L1CS

**API Well Number:** 43047522590000

Lease Number: ML 22265 Surface Owner: STATE Approval Date: 3/20/2012

#### Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

#### Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-24. The expected producing formation or pool is the BLACKHAWK Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### Commingle:

In accordance with Board Cause No. 173-24, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### Conditions of Approval:

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27

pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

#### **Additional Approvals:**

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan contact Dustin Doucet
- Significant plug back of the well contact Dustin Doucet
- Plug and abandonment of the well contact Dustin Doucet

#### **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well - contact Carol Daniels OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at http://oilgas.ogm.utah.gov

- 24 hours prior to testing blowout prevention equipment contact Dan Jarvis
- 24 hours prior to cementing or testing casing contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program
  - contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well contact Dan Jarvis

#### **Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 office
- Dustin Doucet 801-538-5281 office

801-733-0983 - after office hours

• Dan Jarvis 801-538-5338 - office

801-231-8956 - after office hours

#### Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
  - Requests to Change Plans (Form 9) due prior to implementation
  - Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
  - Report of Water Encountered (Form 7) due within 30 days after completion
  - Well Completion Report (Form 8) due within 30 days after completion or

Approved By:

For John Rogers Associate Director, Oil & Gas Sundry Number: 34782 API Well Number: 43047522590000

	STATE OF UTAH		FORM 9
ι	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MININ	G	5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
	posals to drill new wells, significantly dee reenter plugged wells, or to drill horizontal n for such proposals.		7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: MORGAN STATE 921-36L1CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047522590000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	PH n Street, Suite 600, Denver, CO, 80217 37	ONE NUMBER: 720 929-6	9. FIELD and POOL or WILDCAT: 5NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1252 FSL 1131 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	<b>IIP, RANGE, MERIDIAN:</b> 36 Township: 09.0S Range: 21.0E Meridian	: S	STATE: UTAH
11. CHECK	K APPROPRIATE BOXES TO INDICATE N	NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
3/20/2013	☐ CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION
Date of Work Completion.	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
☐ DRILLING REPORT	☐ WATER SHUTOFF ☐	SI TA STATUS EXTENSION	✓ APD EXTENSION
Report Date:	WILDCAT WELL DETERMINATION	OTHER	OTHER:
12 DESCRIBE PROPOSED OR	COMPLETED OPERATIONS. Clearly show all p	ertinent details including dates d	danths volumes atc
Kerr-McGee Oil & G an extension to this	as Onshore, L.P. (Kerr-McGee) APD for the maximum time allo	respectfully requests owed. Please contact	Approved by the Utah Division of Oil, Gas and Mining
the undersigned	with any questions and/or com	iments. Thank you.	
			Date: February 19, 2013
			By:
NAME (PLEASE PRINT)	PHONE NUMBER	TITLE	
Luke Urban	720 929-6501	Regulatory Specialist	
SIGNATURE N/A		<b>DATE</b> 2/15/2013	

Sundry Number: 34782 API Well Number: 43047522590000



#### The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

#### Request for Permit Extension Validation Well Number 43047522590000

API: 43047522590000

Well Name: MORGAN STATE 921-36L1CS

Location: 1252 FSL 1131 FWL QTR SWSW SEC 36 TWNP 090S RNG 210E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Date Original Permit Issued: 3/20/2012

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

• If located on private land, has the ownership changed, if so, has the surface agreement been updated?  Yes  No
Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?       Yes       No
• Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?  Yes No
• Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?  Yes No
• Has the approved source of water for drilling changed?   Yes  No
<ul> <li>Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?</li> <li>Yes</li> <li>No</li> </ul>
• Is bonding still in place, which covers this proposed well?   Yes   No
natura: Luke Urhan Date: 2/15/2013

Signature: Luke Urban **Date:** 2/15/2013

Title: Regulatory Specialist Representing: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Sundry Number: 47633 API Well Number: 43047522590000

STATE OF UTAH			FORM 9		
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING			5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265		
SUNDRY NOTICES AND REPORTS ON WELLS			6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.			7.UNIT or CA AGREEMENT NAME:		
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: MORGAN STATE 921-36L1CS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.			9. API NUMBER: 43047522590000		
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  720 929-6			9. FIELD and POOL or WILDCAT: 1NATERAL BUTTES		
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1252 FSL 1131 FWL			COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNSI Qtr/Qtr: SWSW Section:	STATE: UTAH				
11. CHEC	K APPROPRIATE BOXES TO INDICAT	TE NATURE OF NOTICE, REPOF	RT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION				
✓ NOTICE OF INTENT	ACIDIZE	ALTER CASING	CASING REPAIR		
Approximate date work will start: 3/20/2014	CHANGE TO PREVIOUS PLANS  CHANGE WELL STATUS	CHANGE TUBING  COMMINGLE PRODUCING FORMATIONS	☐ CHANGE WELL NAME ☐ CONVERT WELL TYPE		
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION		
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK		
SPUD REPORT Date of Spud:	PRODUCTION START OR RESUME  REPERFORATE CURRENT FORMATION	RECLAMATION OF WELL SITE  SIDETRACK TO REPAIR WELL	☐ RECOMPLETE DIFFERENT FORMATION ☐ TEMPORARY ABANDON		
Date of Spaul.	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL		
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	✓ APD EXTENSION		
		OTUER	OTHER		
	WILDCAT WELL DETERMINATION	OTHER	OTHER:		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.  Approved by the Utah Division of Oil, Gas and Mining					
			Date: February 12, 2014  By:		
NAME (PLEASE PRINT)	PHONE NUMB	ER TITLE			
Teena Paulo	720 929-6236	Staff Regulatory Specialist			
SIGNATURE N/A		<b>DATE</b> 2/7/2014			

Sundry Number: 47633 API Well Number: 43047522590000



#### The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

#### Request for Permit Extension Validation Well Number 43047522590000

API: 43047522590000

Well Name: MORGAN STATE 921-36L1CS

Location: 1252 FSL 1131 FWL QTR SWSW SEC 36 TWNP 090S RNG 210E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 3/20/2012

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

• If located on private land, has the ownership changed, if so, has the surface agreement been updated?  Yes  No
• Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?  Yes No
<ul> <li>Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?</li> <li>Yes</li> <li>No</li> </ul>
• Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ( Yes ( No
• Has the approved source of water for drilling changed? 🔘 Yes 🌘 No
• Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?   Yes  No
• Is bonding still in place, which covers this proposed well?   Yes   No
nature: Teena Paulo Date: 2/7/2014

Sig

Title: Staff Regulatory Specialist Representing: KERR-MCGEE OIL & GAS ONSHORE, L.P.



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

rector

March 26, 2015

Kerr-McGee Oil & Gas Onshore, LP. 1099 18th Street, Suite 600 Denver, CO 80217

Re:

APDs Rescinded Kerr-McGee Oil & Gas Onshore, LP., Uintah County

Ladies and Gentlemen:

Enclosed find the list of APDs that is being rescinded. No drilling activity at these locations has been reported to the division. Therefore, approval to drill these wells is hereby rescinded as of March 26, 2015.

A new APD must be filed with this office for approval <u>prior</u> to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

Diana Mason

**Environmental Scientist** 

cc:

Well File

SITLA, Ed Bonner

Bureau of Land Management, Vernal



MORGAN STATE 921-36K MORGAN STATE 921-36K	A1BS 43-047 A1CS 43-047 A1BS 43-047 A1CS 43-047 A4BS 43-047 A4CS 43-047 A1BS 43-047 A1CS 43-047 A1CS 43-047 A1CS 43-047	-52258 -52259 -52260 -52261 -52262 -52263 -52264 -52265 -52266
		-52266 -53974 -53976